MICHIGAN'S CHILD CARE MARKET RATES

An Analysis of Costs for Quality Child Care for the Child Development and Care Subsidy Program

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Draft

Public Policy Associates Incorporated

Public Policy Associates, Incorporated is a public policy research, development, and evaluation firm headquartered in Lansing, Michigan. We serve clients in the public, private, and nonprofit sectors at the national, state, and local levels by conducting research, analysis, and evaluation that supports informed strategic decision-making.

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Prepared by
Public Policy Associates
Lansing, Michigan
www.publicpolicy.com

Authors
Robb Burroughs
Nathan Burroughs
Colleen Graber
Dirk Zuschlag

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EXECUTIVE SUMMARY

Michigan's Child Development and Care (CDC) program provides subsidies to eligible low-income families that help them to afford quality child care. This program is overseen by the Michigan Department of Education, Office of Great Start. Even before the pandemic struck, the financial condition of many providers was precarious, and at the same time, for many families, high-quality care was unavailable or prohibitively expensive. The market rate survey and associated study of costs to provide quality care inform policymaking, specifically the setting of provider reimbursement rates, as well as informing the state's plan for the program and use of federal funding.

Overview of Study

The 2020 market rate survey included a survey of the universe of 6,896 licensed child care providers known to be open across the state. Providers received an advance mailed postcard, an email invitation, and a mailed paper survey. Providers could complete the survey on paper, online, or over the telephone. The response rate to the survey was 43.6% overall, with a higher percentage of group and family home providers responding than centers. This survey asked about providers' slots, children in care, tuition rates, and other relevant fees and policies. Due to the fact that this research was conducted during the pandemic, the survey also addressed special cost considerations associated with COVID-19. In addition, Public Policy Associates conducted in-depth interviews with 24 providers and analyzed the cost to provide care using a variety of extant data and the Provider Cost of Quality Calculator from the U.S. Department of Health and Human Services, Office of Child Care.

3008	83 of 83	88,031
Survey Respondents	Michigan Counties Represented	Filled Child Care Slots Represented

Key Findings

The key findings of the study included the following:

Michigan Providers

- Child care centers constitute the largest share of Michigan's child care market, at about half of providers and 86% of the filled child care slots in the state.
- About 20% of child care providers offer some form of grant-funded school-readiness programming. This figure may be slightly lower this year due to the pandemic.
- Just over half of Michigan's licensed providers participate in the Great Start to Quality rating system. Four percent of family homes, 5% of group homes, and 24% of centers are rated at the higher levels (4-5 stars).

Pricing

- Providers most commonly charge daily and/or weekly rates; pricing structure varies by whether care is full time or part time.
- The type of facility, quality rating, and location affect the price of care. Centers are the most costly per hour, and the infant/toddler age group is the most expensive. Generally, higher-rated providers cost more per hour.
- About 62% of providers charge fees for registration and other costs not covered by tuition.
- Nearly two-thirds of providers offer discounted rates to families with more than one child enrolled.
- Providers commonly charge families for the time a child is not in care due to illness, vacation, or holidays.

Subsidy Rates as Compared to the Market

- Current CDC subsidy rates fall below market rates at the 75th percentile. The average difference between the current base subsidy rate and base market rate across all age groups is $2.26 among centers and $0.98 among home-based providers. In 2017, the average differences were $2.21 and $0.95, respectively.
- Subsidy rates are lower than the market rate for centers at all age levels. Subsidy rates are closer to market rates for home-based providers across age levels.
- The closeness of subsidy and market rates varies by region.
- About 62% of providers charge families the full difference between the subsidy and tuition cost.

Access to Care

- About 75% of Michigan's children live in areas with limited access to licensed child care (3 or fewer slots exist per child).
- Over 60% of Black and Hispanic/Latino children live in places with limited access to child care.
- Approximately half of providers are currently caring for at least one child with exceptional needs.
- Less than a quarter of providers offer care during non-traditional hours.
- About 89% of providers indicated that they are willing to care for children with subsidies.

COVID-19 Effects

- Nearly one year after the start of the pandemic, most providers report fewer children in care, with a range from 54% of family homes to 84% of centers reporting a drop.
- Very few providers have changed what they charge for child care during the pandemic, although they had revenue loss associated with enrollment efficiency or increased costs associated with staffing and cleaning.

Cost Factors for Providers

- The biggest cost driver for providers is staffing.
- Many home-based providers are making less than minimum wage.
- The Child and Adult Care Food Program (CACFP) plays a critical role in the financial health of child care providers.
- Higher quality ratings increase provider costs.
- The CDC program strengthens provider financial viability and improves access to child care.
- The pandemic has weakened providers' financial situations.

Key Observations

Based on the findings, it is clear that the pandemic has impacted the child care market in Michigan, with providers contending with cost increases and declining enrollment. The economic consequences of this for providers remain, and this is compounding an already challenged business proposition, where tuition and other fees often do not cover the actual costs of providing quality care, as demonstrated by the fact that many home-based providers are earning less than minimum wage. Centers make up most of the providers in the state, yet they experience the biggest gap between the subsidy rates and market prices, further reflecting a disconnect between the costs of providing care and the subsidy reimbursement.

Assisting providers during the pandemic with relief grants and CDC program changes that allowed for increased absence hours billing and payment for school-aged children during school hours helped. In the longer term, it would be beneficial to increase the subsidy payment rates to meet the 75th percentile of market rates and to increase the registration fee reimbursement. Continuing to offer differentiated reimbursement rates by quality rating, child age group, and provider type makes sense for the market.

Policymakers should also consider strategies to prompt increased slots in areas of limited child care access, particularly for rural families and Black and Hispanic/Latino families, as well as incentivizing providers to offer non-traditional hours care.

INTRODUCTION

Policy Context

The passage of the Child Care and Development Block Grant Act (CCDBG) of 1990[1] marked the beginning of the federal government's significant investment in improving access to child care among low-income working families. Welfare reform legislation in 1996 expanded the program, with child care funding through the Child Care and Development Fund (CCDF).

When Congress reauthorized the CCDBG in 2014, it reaffirmed the core principle that families receiving CCDF subsidies should have equal access to child care comparable to that available to non-CCDF families. In addition, reauthorization reinforced the statutory emphasis on the health and safety of children in care by providing for more consistent standards and for enhanced access to high-quality child care. Accordingly, the federal Administration for Children and Families updated the regulatory regime for the CCDF through the promulgation of a revised rule in 2016.[2]

Both federal law and rule mandate that states receive and administer CCDF funds pursuant to a plan implemented over three years. Further, a state must conduct a statistically valid and reliable child care market rate survey (MRS) within the two-year period before submitting a plan for a succeeding three-year period. States are to use the MRS to set child care payment rates, which should be sufficient for CCDF-subsidized families to secure quality child care across the full range of provider services in the market. However, because families seeking child care often face substantial financial constraints, the market price many providers can charge does not cover the full cost of high-quality child care. That is, the expense providers incur to deliver high-quality care often exceeds the revenue providers earn based on the rates parents can pay. To better inform state CCDF plans, the MRS includes a study of provider costs in addition to market rates.

The Michigan Department of Education (MDE) is the lead agency responsible for administering CCDF funding in the state. MDE's Office of Great Start (OGS) disburses through the Child Development and Care (CDC) program. When the COVID-19 pandemic struck Michigan in early 2020, the state's policy response included support for families and providers in the child care market. Using emergency federal funding, the state created a new Child Care Relief Fund (CCRF), which aimed to reimburse provider business expenses and give families rate relief.[3] By December 2020, the state had distributed six rounds of noncompetitive relief grants to child

[1] Codified as 42 U.S.C. §§9858a, et seq.

[2] 45 CFR Part 98.

[3] "Public Policy Response to the COVID-19 Outbreak in Michigan: CHILD CARE," Michigan League for Public Policy, updated November 23, 2020, accessed March 21, 2021, https://mlpp.org/public-policy-response-to-the-covid-19-outbreak-in-michigan-childcare/; Office of the Governor, "Governor Whitmer Takes Significant Step to Make Child Care Affordable and Accessible for Families," press release of April 29, 2020, accessed March 21, 2021, https://www.michigan.gov/whitmer/0,9309,7-387-90499_90640-527528--,00.html

care providers. This funding supported provider operational costs, and the last four also granted tuition credits with providers for participating families.[4]

Overview of the Study

Michigan's current CCDF plan period ends in 2021, and so it was necessary to conduct another MRS to inform the design and implementation of the state's plan for the coming three years.

This plan may be of particular significance, due to the impact of the ongoing pandemic and the substantial CCDBG and related funding provided in the recently enacted American Rescue Plan Act.[5]

This MRS will not only contribute to the preparation of the upcoming state plan and use of federal funding, but also provides critical information to state policymakers and implementers as they address how best to improve the CDC program effectiveness and efficiency for providers and families going forward. Input from child care providers via survey and other means, moreover, helps shape decisions about the responsiveness of state activities and supports for providers.

Even before the pandemic struck, the financial condition of many providers was precarious, while for many families, high-quality care was unavailable or prohibitively expensive.[6] Data-driven findings about child care market rates and provider costs aid MDE staff in making determinations about CDC policy. MRS data and analysis similarly inform the state legislature's consideration of any changes to CDC rates or pay structure. The prior two surveys in 2015 and 2017 were followed by rate increases,[7] and Governor Whitmer's proposed FY 2012-22 budget includes increased CDC funding.[8]

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[4] "Child Care Relief Fund Grant Summary," Michigan Department of Education, accessed March 21, 2021, https://www.michigan.gov/documents/mde/Final_Grant_Numbers_2.1.21_714872_7.pdf; "Frequently Asked Questions (FAQ) for Child Care Relief Fund Grants, Michigan Department of Education, October 30, 2020, accessed March 21, 2021, https://www.michigan.gov/mde/0,4615,7-140-63533_63534-530404--,00.html.

[5] American Rescue Plan Act of 2021, Pub. Law No. 117-2 (March 11, 2021), §§2201-2202.

[6] "Providers in the Child Care Subsidy System: Insights into Factors Shaping Participation, Financial Well-Being, and Quality," Monica Rohacek and Gina Adams, Urban Institute Research Report (November 2017), accessed March 22, 2021, https://www.urban.org/sites/default/files/publication/95221/providers-and-subsidies.pdf; "Fewer Children, Fewer Providers: Trends in CCDBG Participation," Anitha Mohan, The Center for Law and Social Policy (CLASP) Fact Sheet, accessed March 23, 2021, https://www.clasp.org/publications/fact-sheet/fewer-children-fewer-providers-trends-ccdbg-participation.

[7] "Child Care and Development Block Grant (CCDBG) Act of 2014 – Implementation Status in Michigan," Michigan Department of Education, October 2018, accessed March 21, 2021, https://www.michigan.gov/documents/mde/MDE_Plain_Language_Summary_3.2018_Final_ADA_618251_7.pdf.

[8] "Whitmer's budget would give more Michigan families state-funded child care," *Michigan Bridge*, posted February 11, 2021, accessed March 21, 2021, https://www.bridgemi.com/talent-education/whitmers-budget-would-give-more-michigan-families-state-funded-child-care.

Research Questions

Public Policy Associates (PPA) designed the study to answer the following questions:

- What are the hourly, half-day, full-day, and weekly prices for licensed/registered child care across provider types, and how do prices vary across geographic regions within Michigan?
- To what extent is there equal access to child care across Michigan? Are there gaps between the CDC subsidy rate and the 75th percentile by age group, Great Start to Quality star rating, and provider type? If so, what strategies could be used to address these gaps?
- To what extent are there gaps between the cost of high-quality care and the amount providers are collecting from parents and/or the CDC subsidy? What are strategies Michigan could use to reduce these gaps?
- Do CCDF child care providers charge families more than the required family co-payment? If so, what proportion of facilities charge families a higher amount and how much do they charge beyond the required co-payment?
- How many providers do not accept or limit admissions of children who receive the CDC subsidy and why? What barriers exist (payment rates, practices, etc.) that prevent providers from serving CDC children? How could the subsidy reimbursement process be improved to increase provider participation?

Methodology

PPA employed multiple methods to research child care rates and quality care costs in Michigan. PPA's methodology built on its experience conducting the 2017 MRS, but it also was designed and executed for the contemporary child care market. Appendix A describes in detail the research data-collection and analysis methodology. Appendix B comprises copies of the instruments used for data collection.

PPA surveyed providers to answer questions regarding the price of care, access to child care, amount charged to families, and provider participation in the CDC program. Given experience with the 2017 survey, in collaboration with MDE, PPA made several changes to improve, update, and streamline the survey instrument. PPA also expanded the outreach and follow-up process for the survey, which resulted in an increased response rate over 2017, despite the pandemic. To assess the cost of providing quality care that meets Michigan health and safety standards, PPA modeled annual provider revenue and expense summaries for a typical facility, and by facility type and quality rating using the Provider Cost of Quality Calculator (PCQC). To generate refined, Michigan-specific inputs for the PCQC, PPA collected and analyzed primary data through provider interviews, as well as a range of secondary data on various cost drivers.

Finally, PPA sought input from MDE and the public on a report draft. Appendix C presents illustrative stakeholder comments, the collection and consideration of which contributed to the reporting process for this final document.

MICHIGAN'S LICENSED CHILD CARE PROVIDER PROFILE

The 2020 Market Rate Survey was a census survey, meaning all licensed child care providers were invited to participate.[9] Although not licensed by the State, tribal providers were also invited and responded to the survey.[10] As of January 2021, the Michigan Department of Licensing and Regulatory Affairs (LARA) database of licensed child care providers included a total of 6,935 licensed and active providers;[11] 3,008 of those providers responded to the market rate survey, for an overall response rate of 43%. Although the participation rates among group homes (50%) and family homes (47%) were higher than among centers (38%), analysis comparing the sample of respondents to non-respondents showed the sample to be highly representative of the overall population of providers.[12] Before proceeding into the Market Rate Study and cost findings, this profile summarizes key characteristics of the survey respondents.

Child care centers constitute the largest share of Michigan's child care market.

Child care centers account for approximately half of all child care providers in the state. In addition, out of the 88,031 total slots filled across all age groups among the survey sample, child care centers are caring for 86% of those children (Figure 1).

[9] Unlicensed child care providers were not included in the survey's target population. These providers typically do not have an established price that they charge the public for services, and, therefore, are not generally considered part of the priced child care market.

[10] Five of the survey responses came from tribal child care centers. To protect confidentiality, those responses were not separated from other child care centers for the analysis presented throughout the report.

[11] See Appendix A for a description of the process used to identify the list of providers that had not closed due to the COVID-19 pandemic.

[12] To further strengthen the alignment between the sample of providers who responded to the survey and the overall population of child care providers in Michigan, the data were weighted on the basis of the facility type (center, family home, or group home) and the county. A detailed description of how weights were determined and applied to the analysis is provided in Appendix A

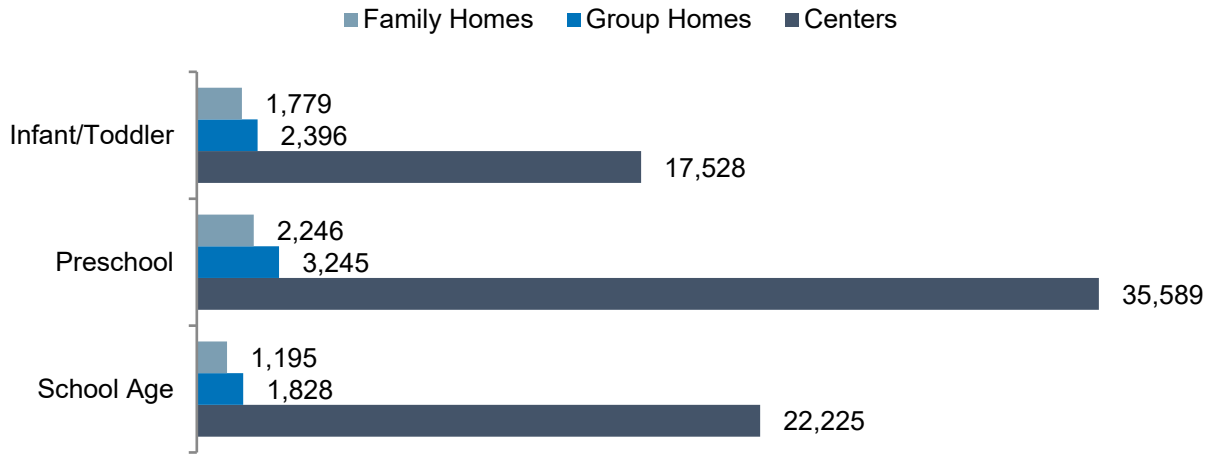

Figure 1. Number of Filled Child Care Slots by Age Group and Type of Provider

About 20% of child care providers offer some form of grant-funded school-readiness programming.

Compared to data from the 2017 survey, the proportion of providers offering grant-funded programming aimed at promoting school readiness among children from low-income families decreased from 26% to 20%. However, the drop is likely temporary, resulting from the shift to virtual learning during the pandemic among many of the school districts that house these programs, rather than an indication of a longer-term trend.

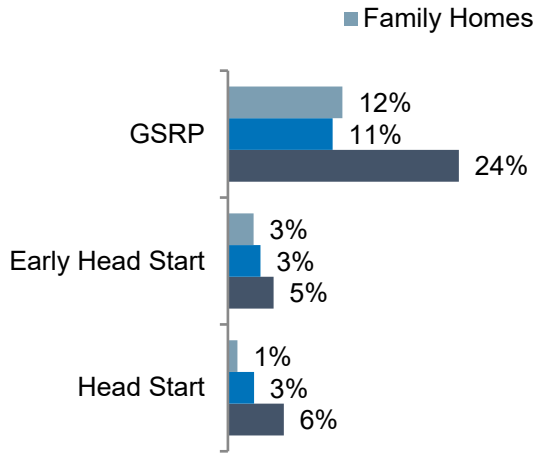

Figure 2. Proportion of Providers Offering Grant-Funded School-Readiness Programs, by Provider Type and Program Type

Just over half of Michigan's licensed providers participate in Great Start to Quality.

Great Start to Quality (GSQ) is Michigan's quality rating and improvement system. GSQ uses over 40 program quality indicators to measure the quality of early childhood programs across the following five categories:

- Staff qualifications and professional development
- Family and community partnerships
- Administration and management
- Environment
- Curriculum and instruction

All licensed providers in Michigan have a GSQ profile. Providers that choose not to participate in the rating process receive an empty star. Providers that do participate in the GSQ rating process are rated on a scale of one to five stars, with each star rating representing a different level of quality, as follows:

- **1 star** – Program meets licensing requirements and is *participating* in GSQ.
- **2 stars** – Program demonstrates quality across *some* categories.
- **3 stars** – Program demonstrates quality across *several* categories.
- **4 stars** – Program demonstrates quality across *almost all* categories.
- **5 stars** – Program demonstrates quality in *all* categories.

Figure 3 shows the breakdown of GSQ participation and star ratings among the provider types. Consistent with findings from the 2017 survey, the GSQ participation rate and the average star rating are higher among centers than among home-based providers. In addition to improving the overall quality of the child care options available to families, providers' willingness to participate in GSQ and their ability to improve their quality ratings have important implications for the reimbursement rates they are able to receive for serving families receiving child care subsidies.[13]

[13] See the tables included on page 15 for additional details on CDC reimbursement rates by star rating.

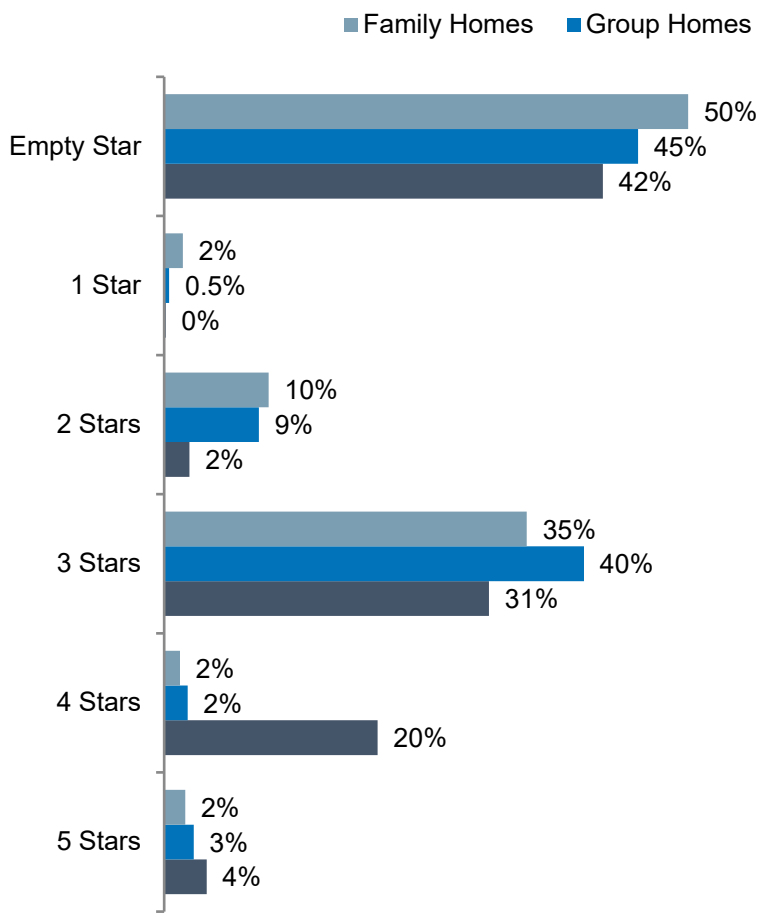

Figure 3. Proportion of Providers Participating in Great Start to Quality, by Star Rating and Provider Type

CHILD CARE PRICES

To determine the pricing approaches used by providers, the survey included questions about providers' rate structures (i.e., hourly, daily, weekly, etc.) and amounts charged by age group, as well as additional fees and discounts.

Providers most commonly charge daily and/or weekly rates.

Providers were asked to indicate how they charge both their full-time and part-time rates for families that do not receive any state and/or federal tuition assistance. Providers who charge tuition using multiple rate structures were asked to indicate the two most common ways they charge.[14] Approximately 61% of providers indicated that they charge on a weekly basis, and 43% offer a daily rate. As illustrated in Figure 4, some of the variation in rate schedules depends on whether children are in care full or part time. While weekly fee structures are most common for full-time tuition, part-time tuition is more often charged on a daily basis. In general, these patterns remain consistent across the provider types.

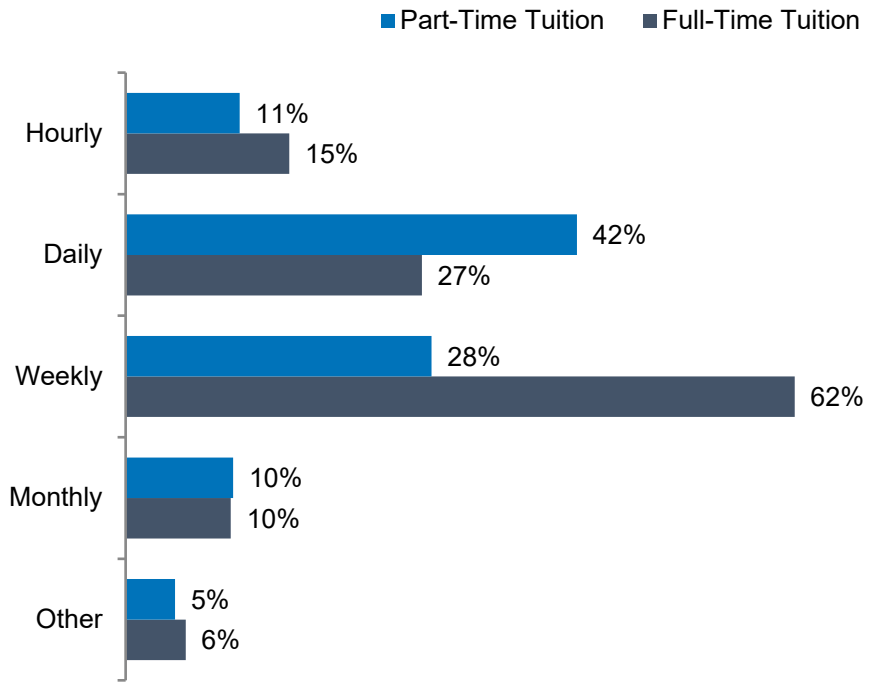

Figure 4. Prevalence of Rate Structures for Full-Time and Part-Time Tuition

[14] Twenty-four percent of providers indicated multiple fee structures for full-time rates, and 15% indicated multiple fee structures for part-time rates.

Type of facility, quality rating, and location affect the price of care.

Child care prices, across all age groups, are higher among centers than among home-based providers. Figure 5 shows hourly tuition rates,[15] at the 75th percentile,[16] for each age group and provider type. Consistent with findings from the prior market rate study, the price differences between centers and home-based providers are greatest for the infant and toddler group, with centers charging approximately $2.00 per hour more than home-based providers. The difference drops to about $1.00 per hour for the school-age group.

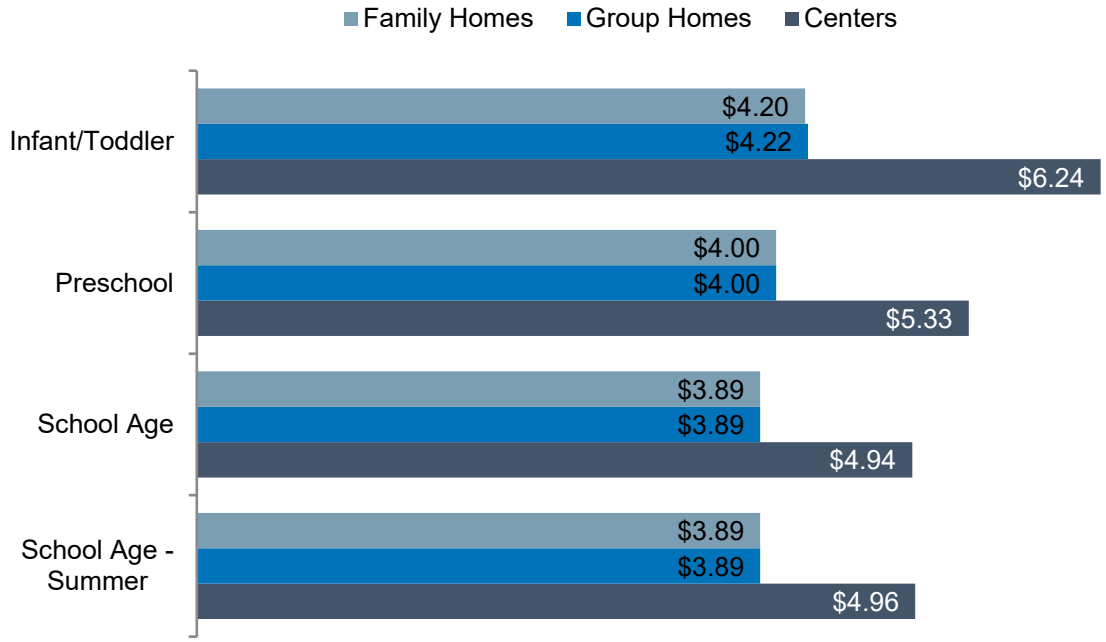

Figure 5. Market Rates (75th Percentile), by Age Group and Provider Type

[15] The hourly rates indicated throughout the report represent a blend of full-time and part-time rates quoted by providers. In most cases, including those where full-time and part-time rates were provided, the full-time rate was used. Part-time rates were used in cases where only part-time rates were provided. See Appendix A for a detailed description of the methodology used to convert daily, weekly, and/or monthly rates quoted by providers to an hourly rate.

[16] The 75th percentile of hourly rates is the level at which 75% of child care slots may be purchased. For example, the 75th percentile of home-based infant care hourly rates is $4.00. That means that 75% of home-based providers charge $4.00 per hour or less for infant care.

Figure 6 shows the differences in hourly tuition rates based on the providers' Great Start to Quality (GSQ) star rating. While prices appear to remain fairly stable among providers through the first three star levels, prices for all age groups increase among providers at levels four and five.

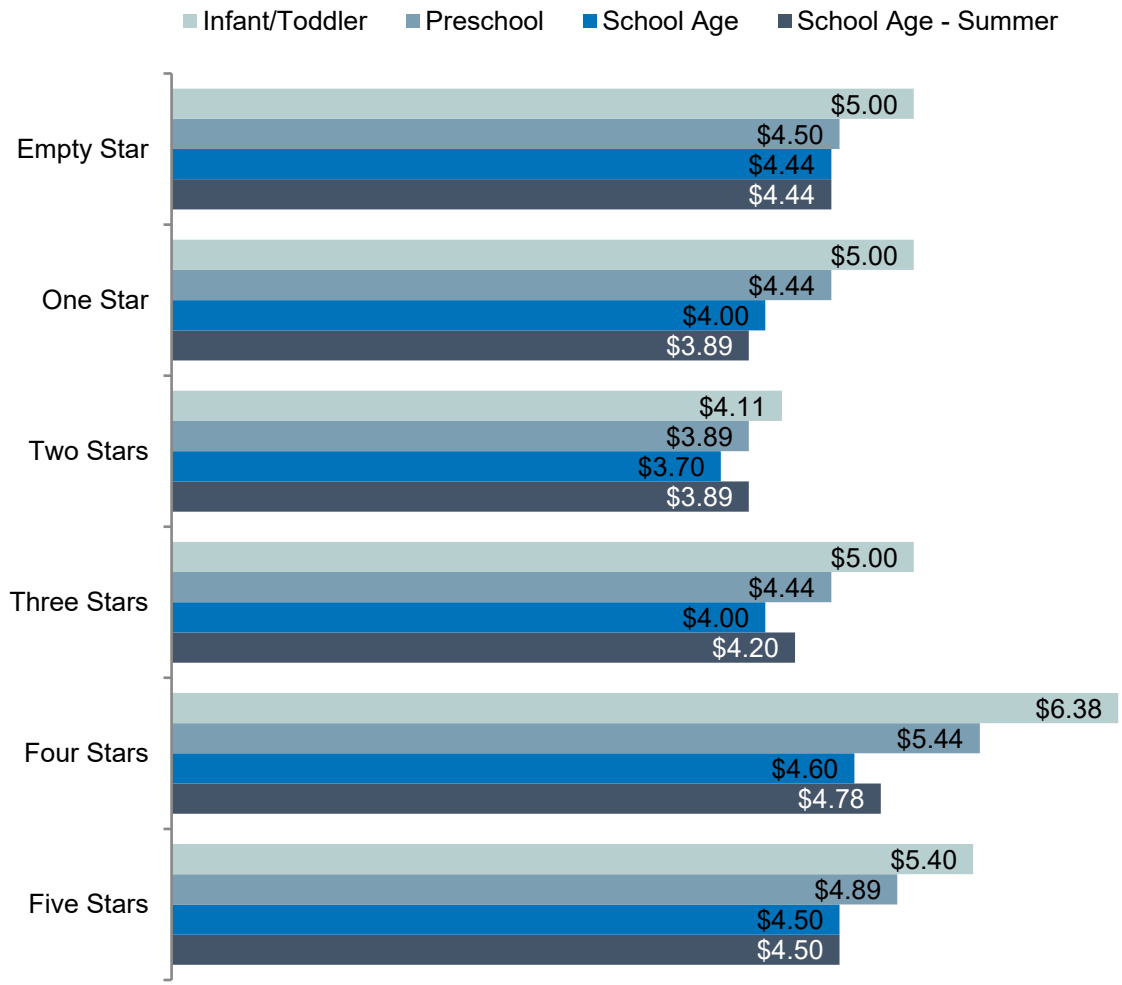

Figure 6. Market Rates (75th Percentile), by Age Group and GSQ Star Rating

Location also has some impact on price. Figure 8 shows market rates, by age group, for each Great Start to Quality Resource Center region of the state. A map of the regions is included in Figure 7. [17] Although the rates are fairly consistent throughout much of Michigan, prices for all age groups are higher in the predominately urban and suburban communities around Grand Rapids and the Detroit metropolitan area.

[17] For the benefit of non-Michigan readers, we have re-labeled the GSQ Resource Center Kent County region to Grand Rapids Metro region and the Wayne-Oakland-Macomb region to Detroit Metro region.

Figure 7. Regions of the State

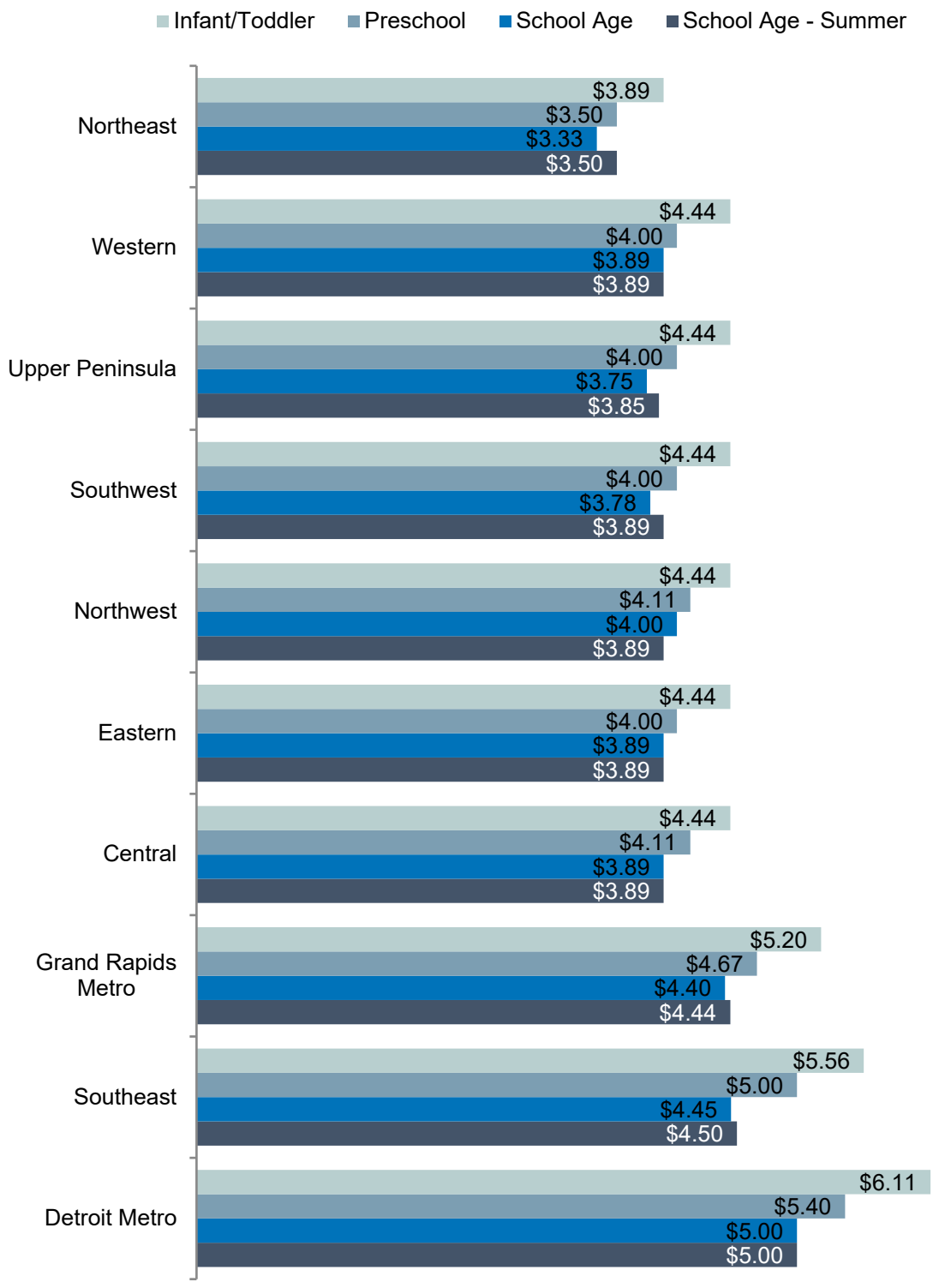

Figure 8. Market Rates (75th Percentile), by Age Group and GSQ Star Rating

The price of child care often includes more than just tuition rates.

To fully assess the price of child care, it is important to look beyond tuition rates. Additional fees for registration and/or supplies, multi-child discounts, and/or absence policies may have an impact on how much parents ultimately pay for child care.

The majority of providers charge fees for registration and other costs not covered by tuition.

Sixty-two percent of providers charge one or more fees in addition to tuition. Among these additional fees, registration fees are the most common, especially among center-based providers. Nearly 90% of centers charge some form of registration fee. The majority (58%) reported only charging an initial fee to register. The other 42% indicated that they collect an initial registration or application fee plus an annual, semi-annual, or other recurring registration fee.

Although not as prevalent as registration fees, other fees include charges for field trips, supplies, transportation, security deposits, and fundraisers.[18] The proportions of providers who charge each type of fee are provided in Figure 9.

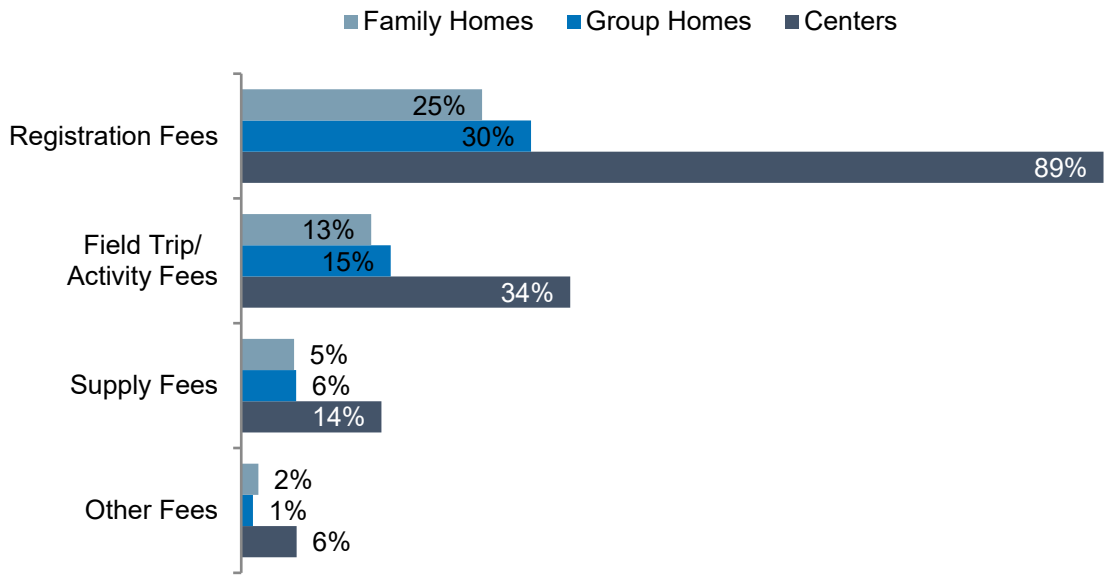

Figure 9. Proportion of Providers Who Charge Fees Beyond Tuition, by Type of Fee and Provider Type

[18] Fees for late pick-up, bounced checks, late payment, and other penalty fees were excluded from the analysis.

Nearly 70% of providers who charge registration fees per child indicated that they offer discounted rates for families enrolling more than one child. In addition, a small number of providers indicated that the price of the registration fee varies based on the age of the child and/or other circumstances, including the ability of parents to afford the fee, families who have been referred by current or past clients, families who register early, and so on. Due to the complexity and variability among the ways providers apply these various discounts, the values presented in the figure below do not factor in those discounts. Therefore, in presenting the registration fees for the first child only, the chart reflects the higher end of the registration cost-per-child scale. Compared to 2017, the average registration fee charged by centers increased from $61 to $76, and the average fee charged by home-based providers increased from $52 to $66.

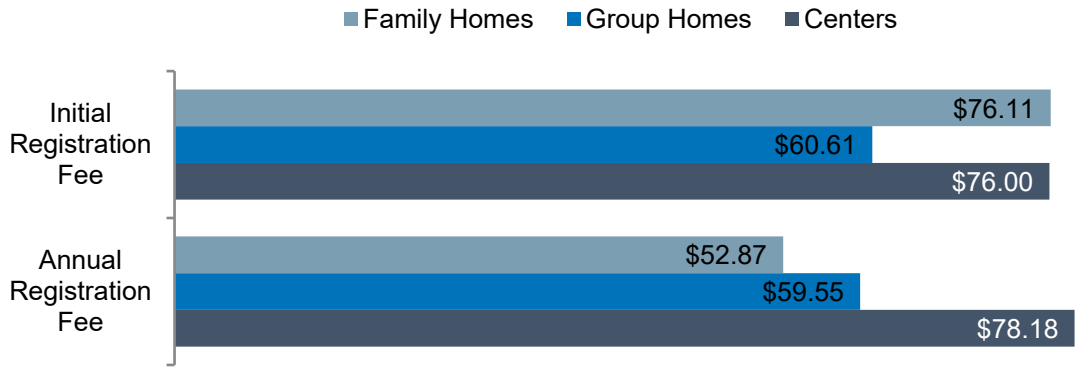

Figure 10. Average Price of Initial and Annual Registration Fees, by Provider Type

Nearly two-thirds of providers offer discounted rates to families with more than one child enrolled.

Overall, 64% of providers offer a discount on tuition for families enrolling more than one child at the same time. As illustrated in Figure 11, centers are somewhat more likely than group homes and family homes to offer such discounts. Although the survey asked providers to describe the discounts offered, the complexity and variability in how providers described those discounts made it impossible to calculate an average value of the discounts across providers.

Figure 11. Proportion of Providers Who Offer Family Discounts, by Provider Type

Providers commonly charge families for the time a child is not in care due to illness, vacation, or holidays.

As reflected in Table 1, most providers have absence policies that require parents to pay for at least some of the days a child is not in care and/or pay a reduced rate for days not in care. Parents are most likely to be charged full price for days missed due to illness or holidays. The percentages below do not vary significantly based on the type of provider.

Table 1. Providers' Policies Regarding Charges for Absences

Provider Policy	Sick Days	Vacation Days	Holidays
Parents never pay.	14%	32%	54%
Parents pay partial rate and/or receive a set number of days free.	24%	39%	38%
Parents always pay regular price.	27%	23%	50%

GAPS BETWEEN SUBSIDY AND MARKET RATES

Current CDC subsidy rates fall below market rates at the 75th percentile.

For families that qualify for CDC assistance, the State reimburses approved providers for the hours that a child is in care, up to a maximum number of hours approved for each child. The hourly rate for reimbursements is determined based on the age of the child, the type of provider, and the provider's Great Start to Quality (GSQ) star rating. The current reimbursement rates for centers and home-based providers, as set by the state legislature in January 2020, are provided in Table 2 and Table 3. In addition to increased rates, the changes that took effect in January 2020 also included a new preschool age category, separating children over two and a half years old into two groups.

Table 2. CDC Hourly Reimbursement Rates for Child Care Centers

Star Rating	Infant/Toddler	Preschool	School Age
Base Rate (Empty Star)	$4.30	$3.05	$2.95
1 Star	$4.30	$3.05	$2.95
2 Stars	$4.55	$3.30	$3.20
3 Stars	$5.05	$3.80	$3.70
4 Stars	$5.30	$4.05	$3.95
5 Stars	$5.80	$4.55	$4.45

Table 3. CDC Hourly Reimbursement Rates for Group and Family Homes

Star Rating	Infant/Toddler	Preschool	School Age
Base Rate (Empty Star)	$3.45	$2.95	$2.85
1 Star	$3.45	$2.95	$2.85
2 Stars	$3.70	$3.20	$3.10
3 Stars	$4.20	$3.70	$3.60
4 Stars	$4.45	$3.95	$3.85
5 Stars	$4.95	$4.45	$4.35

In 2020, the CDC program also implemented a new block reimbursement rate. Depending on the hours of care billed over a two-week period for a child receiving subsidies, the block reimbursement rate allows providers to round the actual hours to a pre-determined standard number of hours for part-time or full-time care before multiplying the rounded total by the hourly rates defined in the tables above. The guidelines for rounding hours are summarized in Table 4.

Table 4. Block Reimbursement Rates

Block	Hours Billed Over Two Weeks	Payment Calculation
Full Time Plus	81 or More Hours	90 Hours x Hourly Rate
Full Time	61 – 80 Hours	80 Hours x Hourly Rate
Part Time	31 – 60 Hours	60 Hours x Hourly Rate
Low-Hours Part Time	1 – 30 Hours	Hours Billed x Hourly Rate

Sample Scenario: A child care center with a three-star rating is currently caring for a preschool-aged child whose family is receiving subsidies. Over a two-week period, the child was in care for a total of 83 hours. Based on an hourly rate of $3.80, the total reimbursement for two weeks would be $315.40. However, based on the block reimbursement rate, 83 hours billed over two weeks falls into the Full Time Plus block, meaning the hours billed are rounded up to 90, and the actual reimbursement for two weeks would be $342.

Despite raising the base reimbursement rates in 2020, the differences between the base subsidy rates and market rates changed very little since the last market rate survey was conducted in 2017. The average difference between the current base subsidy rate and base market rate across all age groups is $2.26 among centers and $0.98 among home-based providers. In 2017, the average differences were $2.21 and $0.95, respectively.

The following series of charts show how these reimbursement rates compare to statewide market rates by provider type and age group. Each chart includes two markers showing the range of market rates based on provider star ratings. The base market rate, indicated by the solid orange line in each chart, reflects the 75th percentile of rates charged among providers with empty star ratings. The high-star market rate, indicated by the dashed orange line in each chart, reflects the 75th percentile of rates charged among providers with four- or five-star ratings.[19]

Subsidy rates are lower than the market rate for centers at all age levels.

For centers, the subsidy rates at all star levels are below the 75th percentile of the base market rates for all age groups. The gaps are largest among the preschool age group, where the base reimbursement rate is 44% below the base market rate. The gaps are smallest among the infant and toddler age group, where the base reimbursement rate is 33.9% below the base market rate.

[19] More detailed breakdowns of market rates by county, as well as by age group and quality rating are included in the tables in Appendix D.

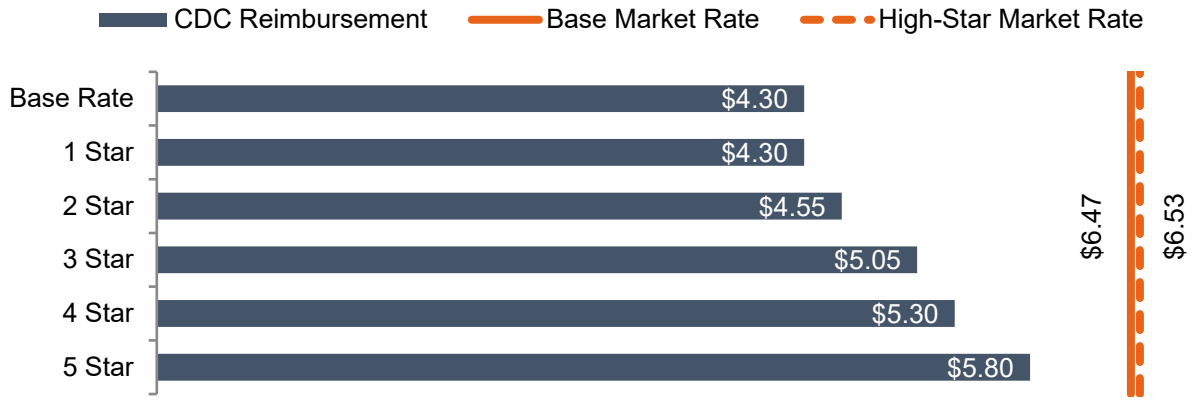

Figure 12. Comparison of CDC Subsidy Rates to Market Rate for Infant and Toddler Age Group – Centers

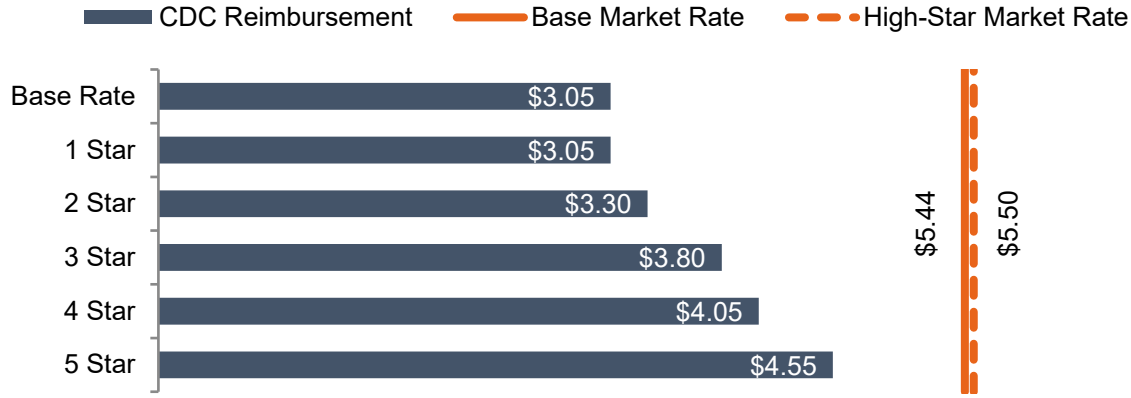

Figure 13. Comparison of CDC Subsidy Rates to Market Rate for Preschool Age Group – Centers

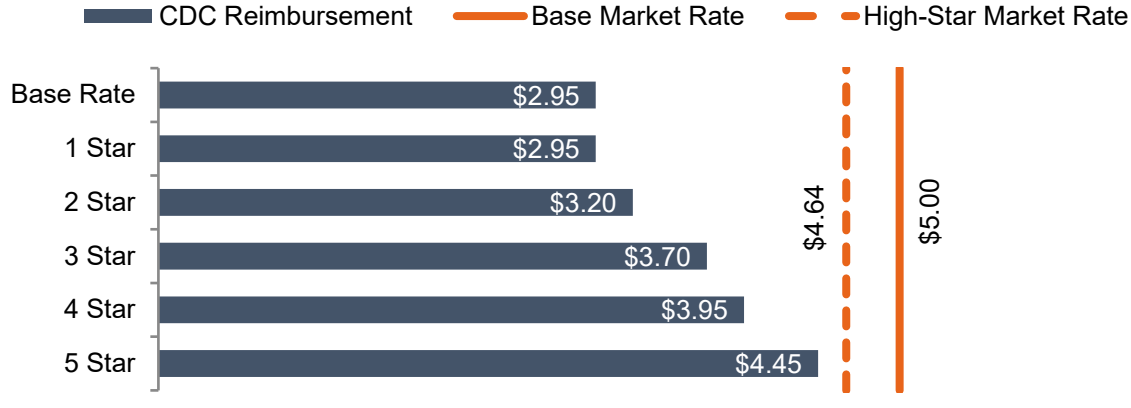

Figure 14. Comparison of CDC Subsidy Rates to Market Rate for School Age Group - Centers

Subsidy rates are closer to market rates for home-based providers across age levels.

Compared to centers, the reimbursement rates across all age groups and star ratings for home-based providers are closer to the base market rates. At higher star levels (4 and 5 stars), the reimbursement rates for home-based providers surpass base market rates. As noted above, though, only 3% of family homes and 5% of group homes are currently rated above the 3-star level.

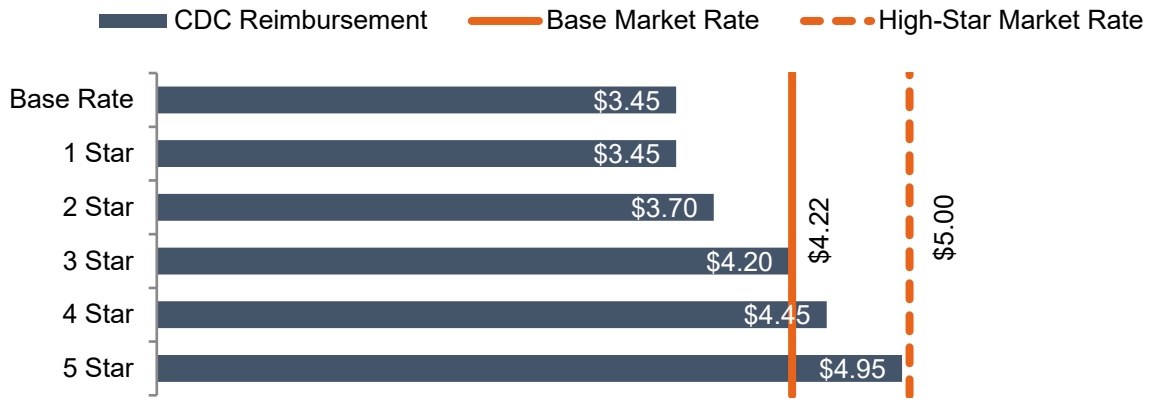

Figure 15. Comparison of CDC Subsidy Rates to Market Rate for Infant and Toddler Age Group - Homes

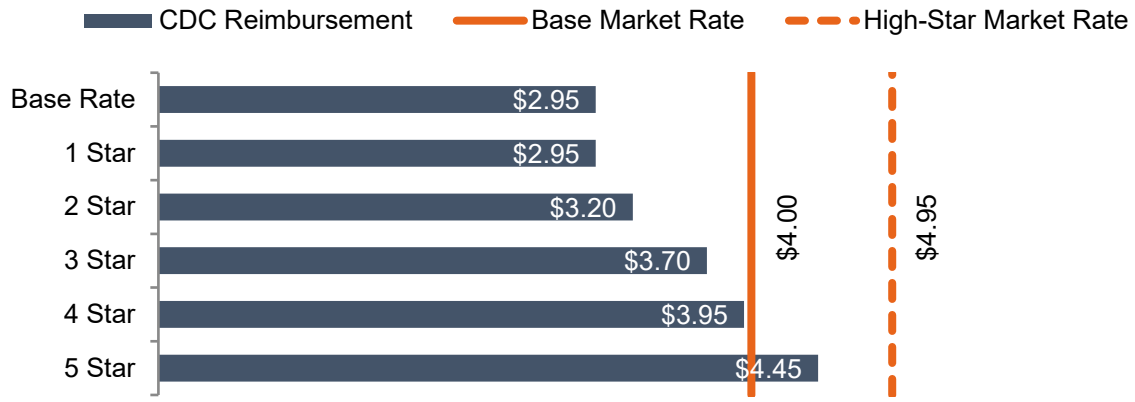

Figure 16. Comparison of CDC Subsidy Rates to Market Rate for Preschool Age Group – Homes

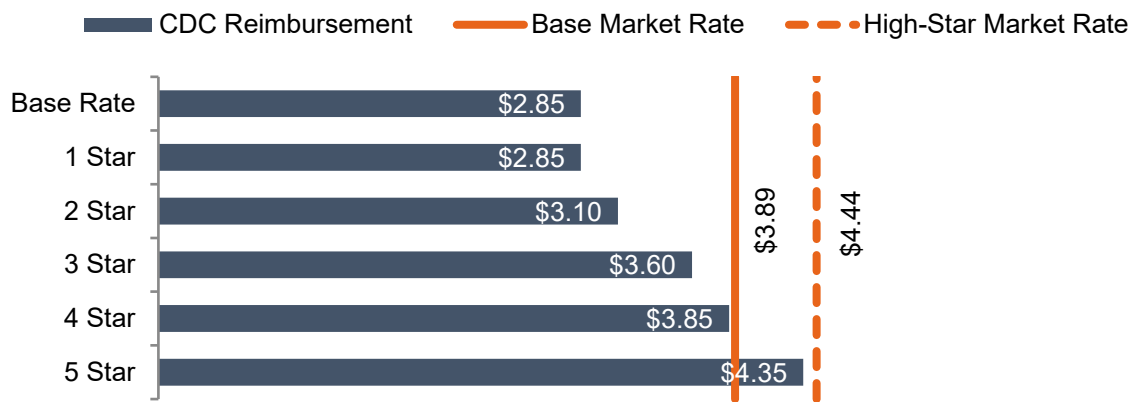

Figure 17. Comparison of CDC Subsidy Rates to Market Rate for School Age Group - Homes

The closeness of subsidy and market rates varies by region.

While there is some variation by age group, subsidy rates tend to come closest to market rates in the northern and more rural regions. In the southeastern part of the state, the base subsidy rates typically fall below 70% of market rates.

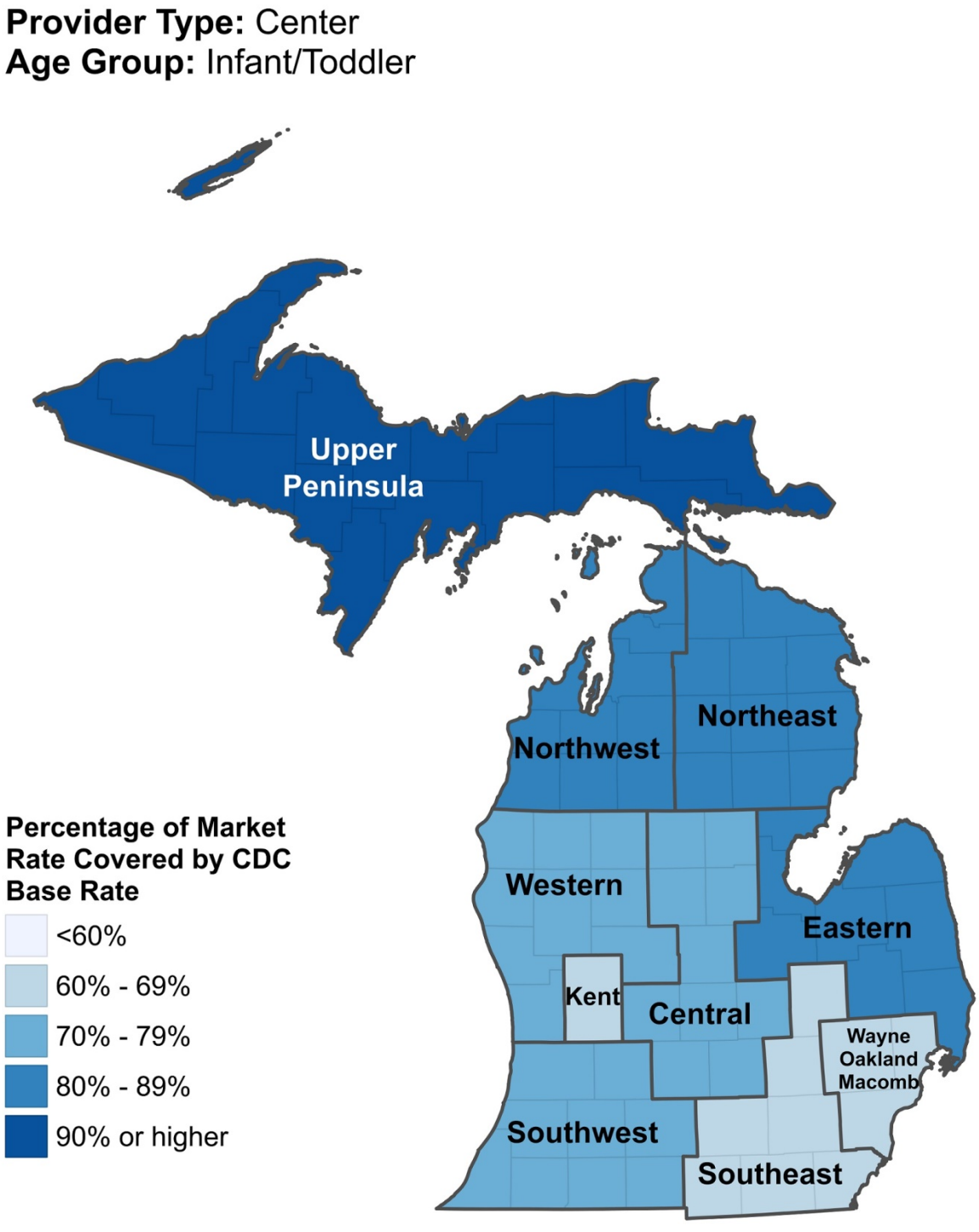
Provider Type: Center
Age Group: Infant/Toddler
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 18.

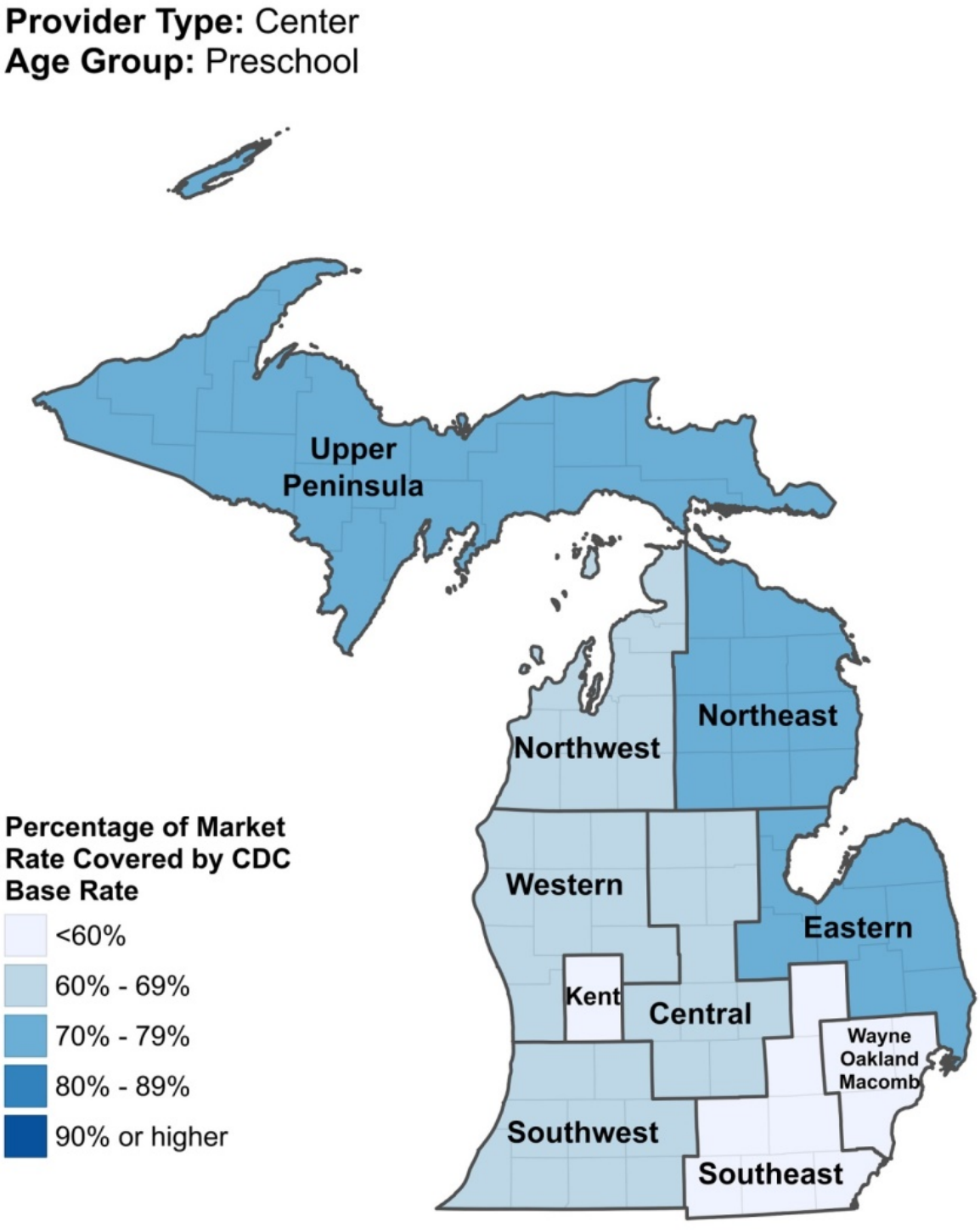
Provider Type: Center
Age Group: Preschool
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 19.

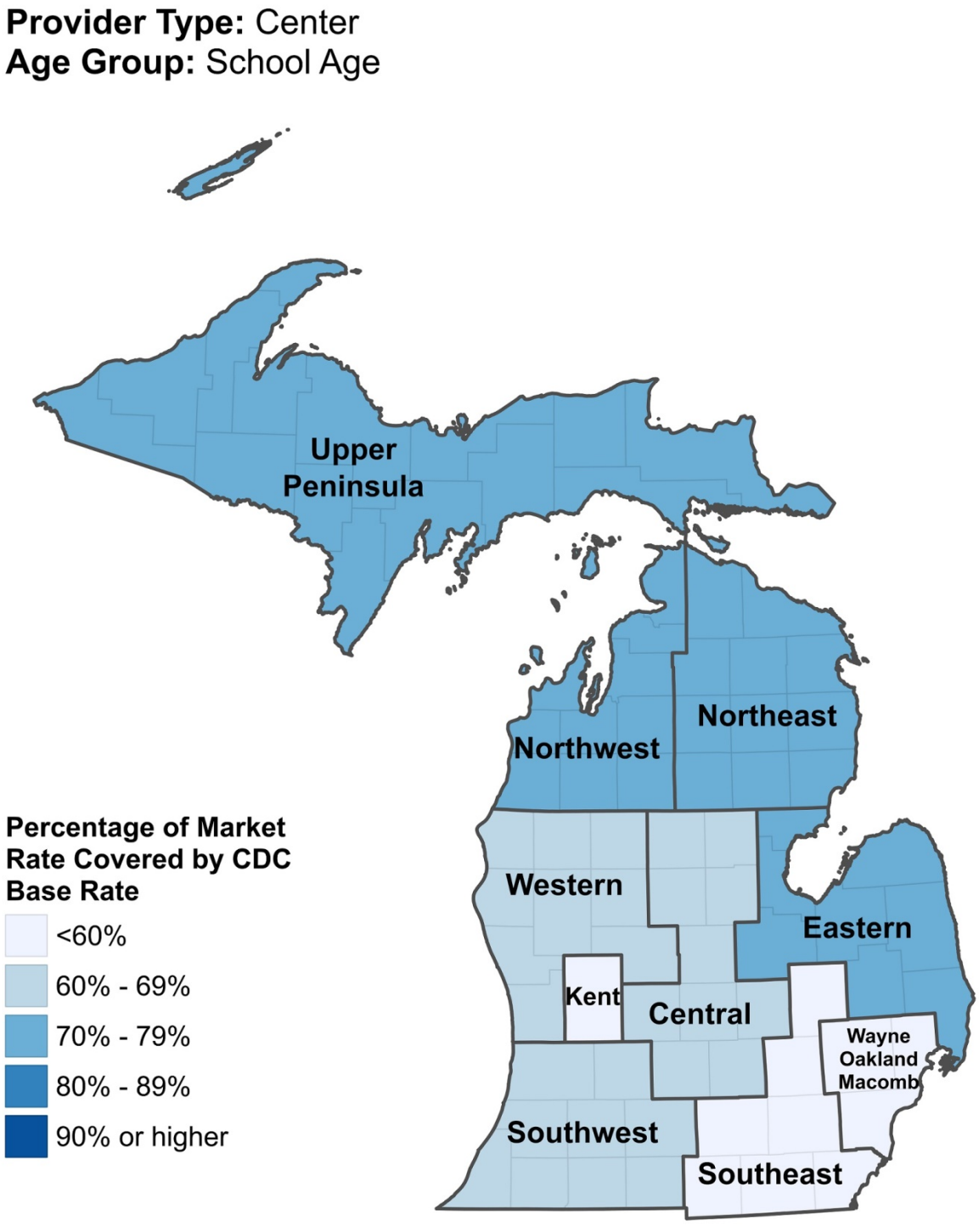
Provider Type: Center
Age Group: School Age
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 20.

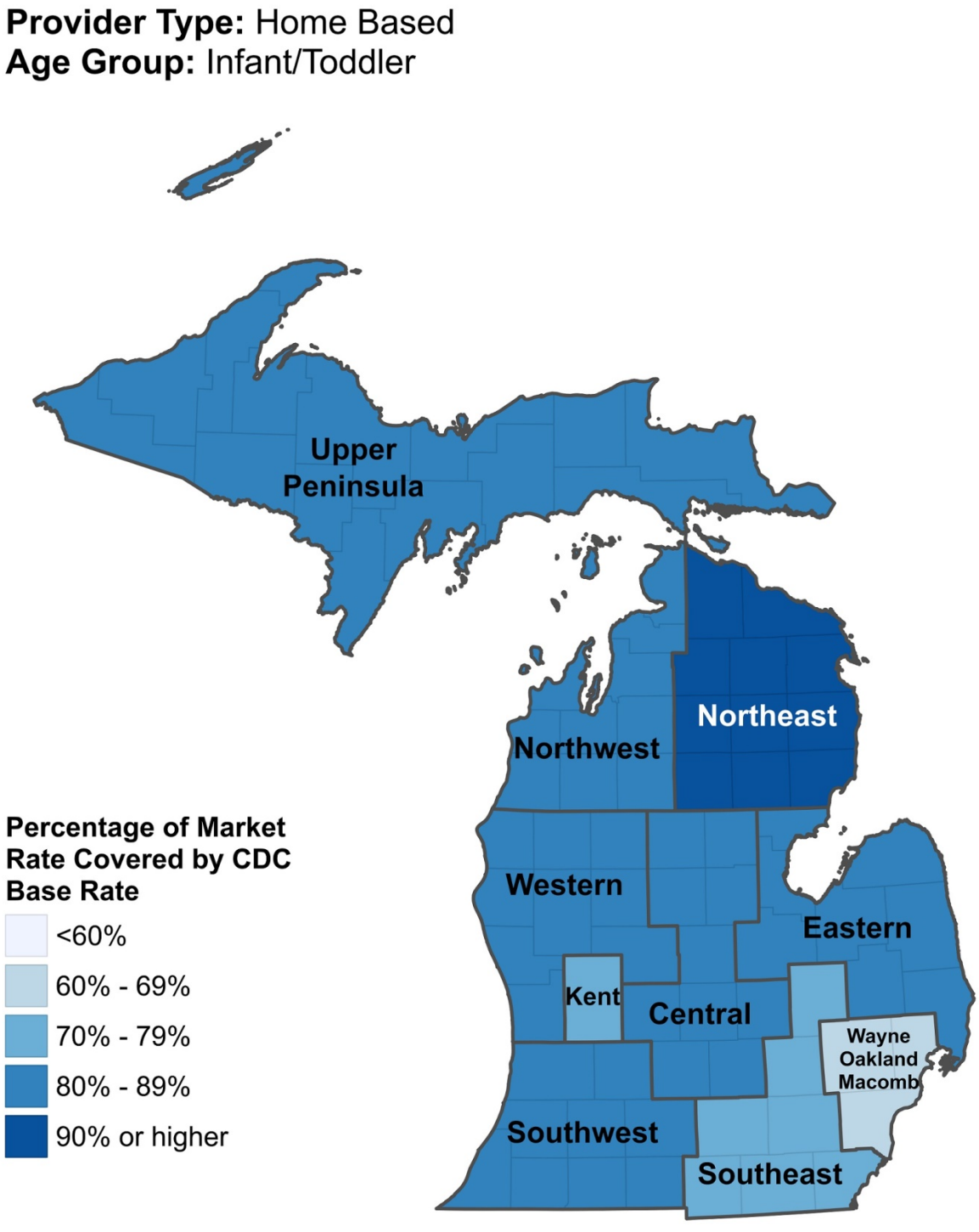
Provider Type: Home Based
Age Group: Infant/Toddler
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 21.

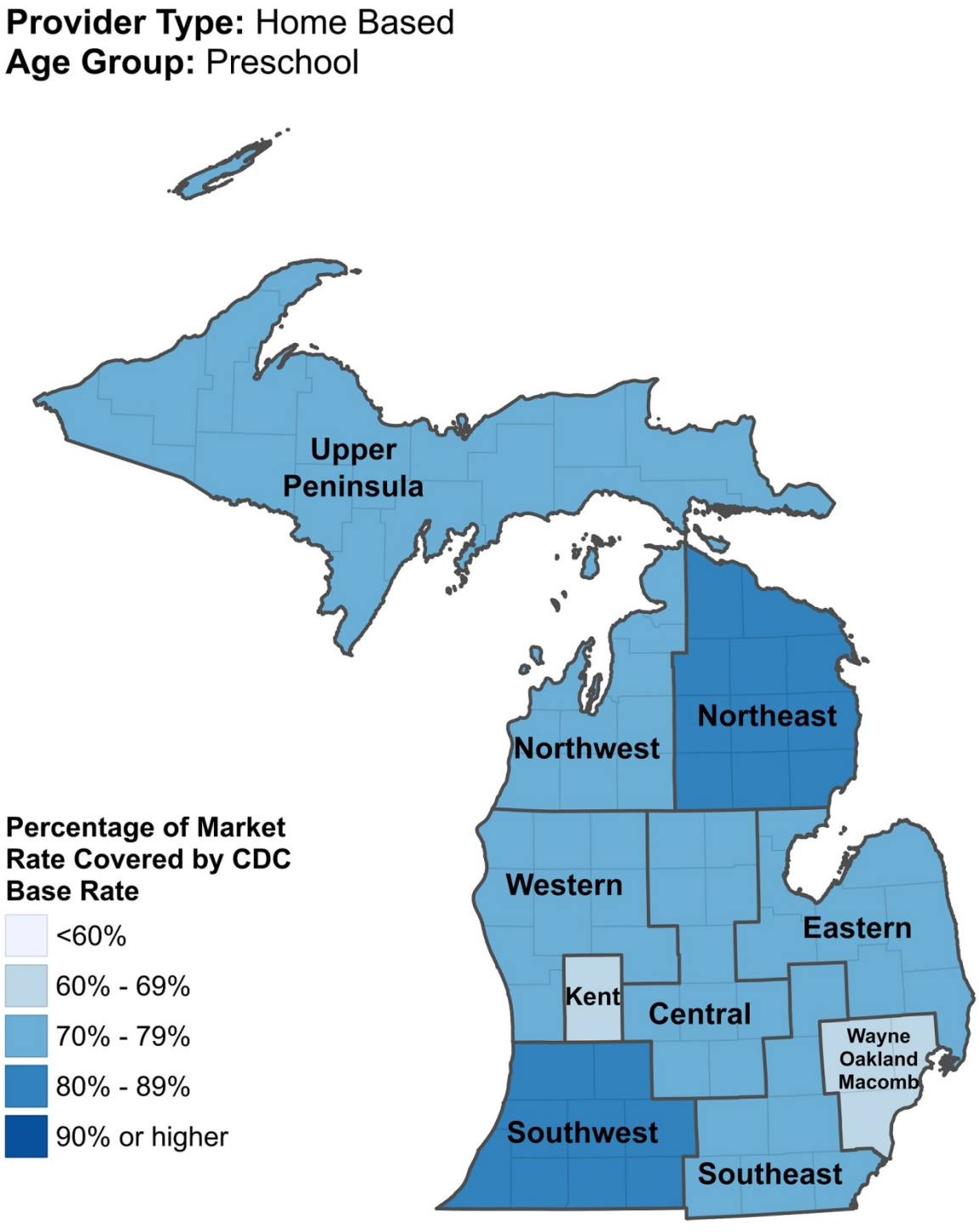
Provider Type: Home Based
Age Group: Preschool
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 22.

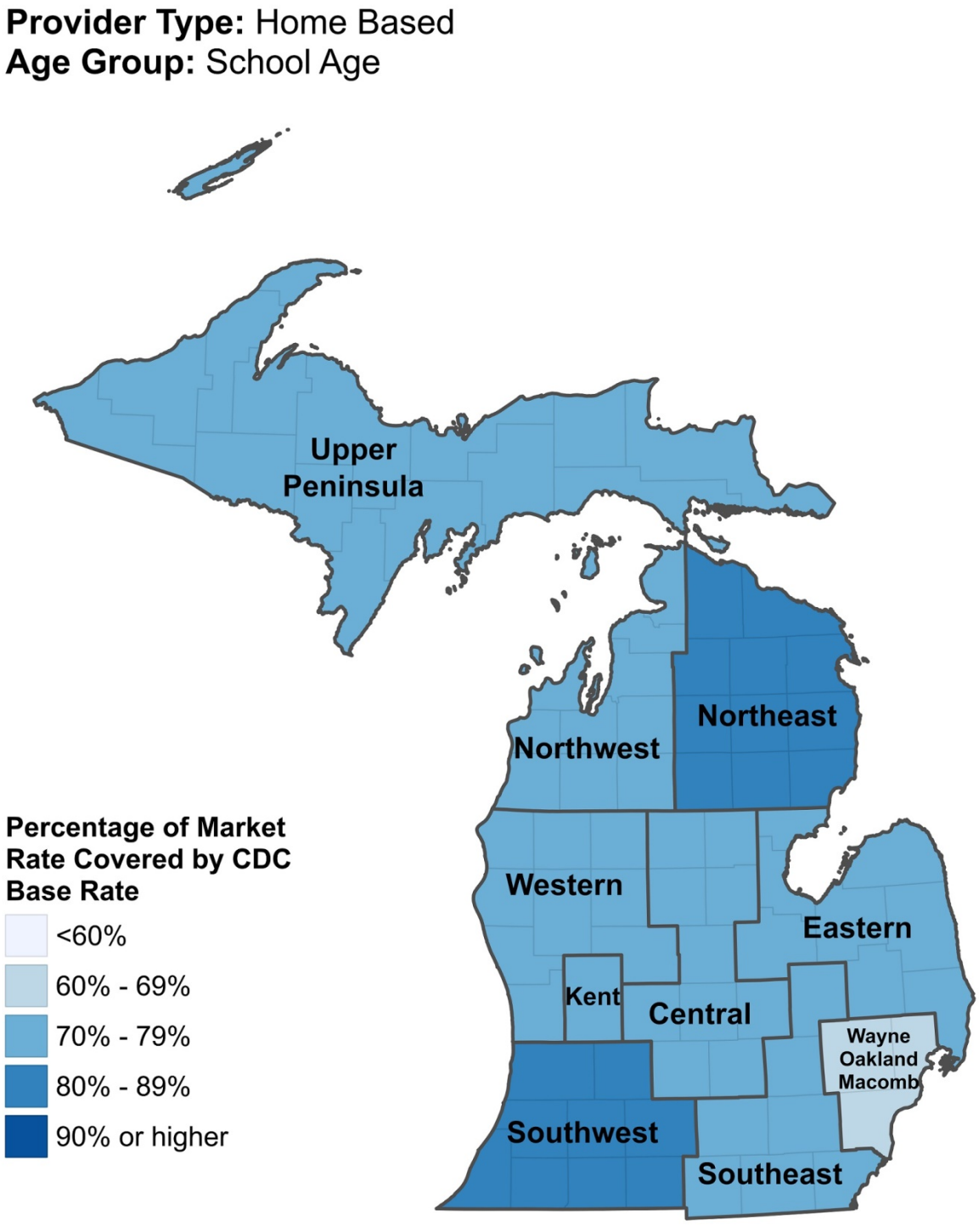
Provider Type: Home Based
Age Group: School Age
Upper Peninsula
Northwest
Northeast
Western
Eastern
Kent
Central
Wayne
Oakland
Macomb
Southwest
Southeast
Percentage of Market Rate Covered by CDC Base Rate
<60%
60% - 69%
70% - 79%
80% - 89%
90% or higher

Figure 23.

About 62% of providers charge families the full difference between the subsidy and tuition cost.

When the CDC reimbursement rate does not cover the full price of a child's care, a provider may charge parents directly for the remaining balance or a portion of the balance. In addition to most providers charging families the difference between the actual price and the subsidy rate, 9% charge those families a portion of the difference, and 10% indicated that decisions about whether or not to charge a co-pay and/or the amount of the co-pay are made on a case-by-case basis. Only 19% of providers indicated that they do not charge families receiving subsidies anything beyond the amount covered by the subsidy.

Sample Scenario: Suppose a single parent with a gross income of about $1,700 per month is approved to receive CDC assistance to enroll her 3-year-old in child care at a center with a 3-star rating for 40 hours per week. At the market rate of $5.00 per hour, after two weeks, the total bill comes to $400. At the subsidy rate of $3.80 per hour, the total CDC reimbursement for those two weeks comes to $304, leaving a $96 balance charged directly to the parent. For a parent earning $1,700 per month, paying $192 per month for child care is still 11% of her income.

EQUITABLE ACCESS TO QUALITY CARE

A principal aim of the study was to examine the extent to which there is equal access to care across Michigan. Factors influencing access include geographic proximity to care, access to care that is responsive to the individual needs of children and families, and affordability.

More than half of Michigan's families live in areas with limited access to licensed child care.

To illustrate the availability of child care based on a family's location, the map below shows how the number of children under age 10 for each available child care slot varies by census tract throughout the state.[20] Based on data from the U.S. Census Bureau,[21] approximately one-third of children, ages 0 – 11, when not in school, regularly spend time in the care of someone who is not a relative. Therefore, parents may begin to have trouble locating child care when children in the community outnumber available child care slots by more than three to one. Throughout the state, more than 75% of children under age 10 live in census tracts where the assessed ratio of children to available child care slots surpasses that threshold of three to one, and more than half of Michigan's children under age 10 live in census tracts where the assessed ratio is greater than five to one. One note of caution, however: this analysis does not include the large number of licensed providers who are currently closed due to the COVID-19 pandemic. Therefore, it is likely that ratios will improve over the next year, as additional providers are able to re-open. However, it is unlikely that the increase in capacity will be sufficient to address the full scope of the need in all communities, especially in the more rural areas located in the northern part of the state.

[20]This analysis is based on research on child care access conducted by the Center for American Progress. See: Rasheed Malik et al., *America's Child Care Deserts in 2018* (Washington, D.C.: Center for American Progress, 2018) available at https://www.americanprogress.org/issues/early-childhood/reports/2018/12/06/461643/americas-child-care-deserts-2018/. To calculate the ratio of available slots to the population of children for each census tract, each provider's total capacity was divided proportionally among the census tracts within a five-mile radius for centers and a one-mile radius for home-based providers.

[21] Federal Interagency Forum on Child and Family Statistics, *America's Children: Key National Indicators of Well-Being, 2017* (Washington, D.C.: Author, July 2017)

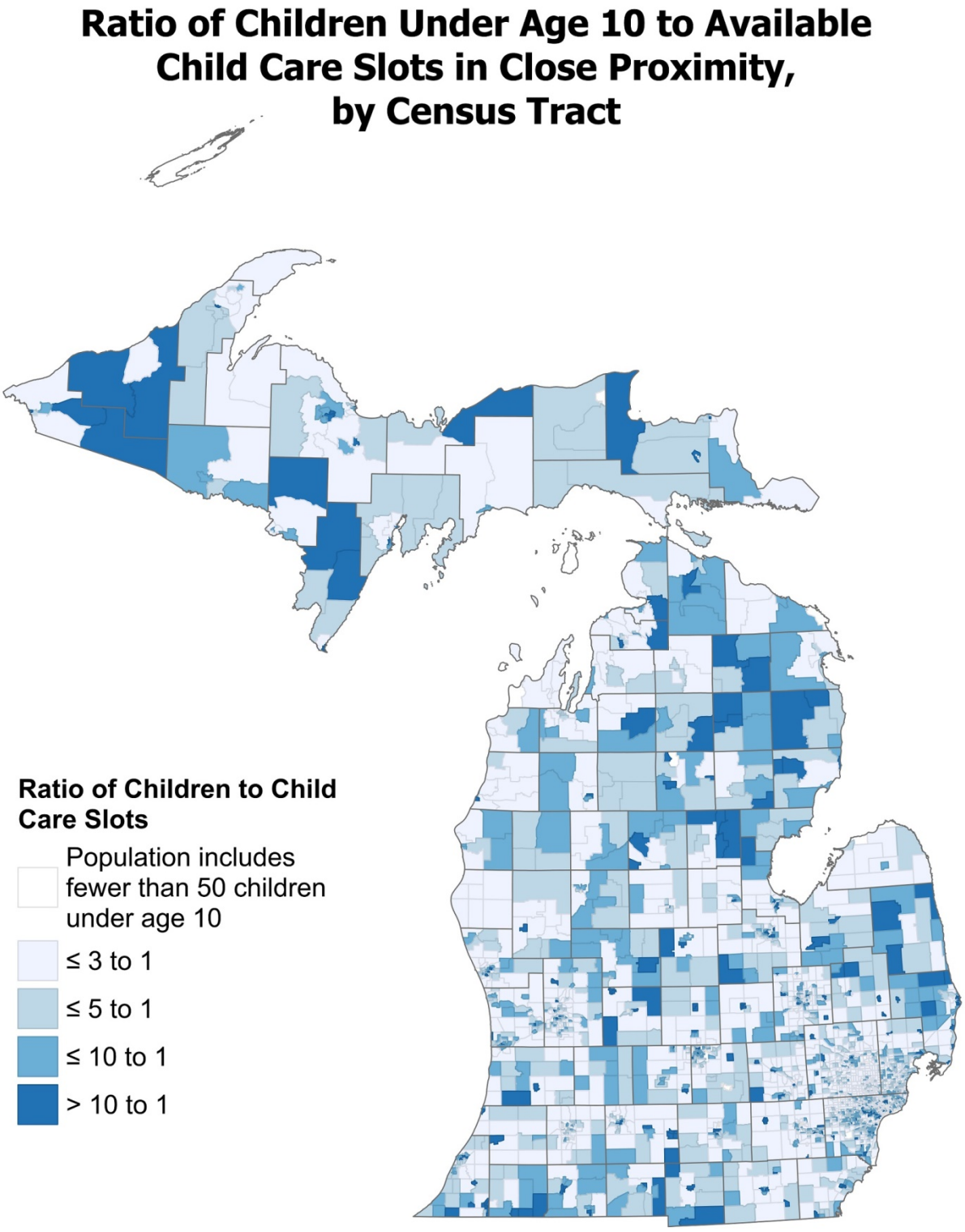

Figure 24. Ratio of Children Under Age 10 to Available Child Care Slots in Close Proximity, by Census Tract

Black and Hispanic/Latino children are more likely to live in places with limited access to child care.

While 51% of all Michigan children under the age of 10 live in census tracts where the ratio of children to child care slots is greater than five to one, the proportions are even higher among Black and Hispanic/Latino populations. As illustrated in Figure 25, 69% of Black children and 63% of Hispanic/Latino children live in areas with limited access to child care. Certainly, proximity to licensed care, on its own, does not guarantee access to those services. For example, individual racial and ethnic groups may also face additional barriers related to economic conditions, systemic racism, discrimination, and other factors that limit access to available child care. Even so, these data suggest that efforts to increase overall access to child care must include strategies to increase supply in communities with high proportions of children of color.

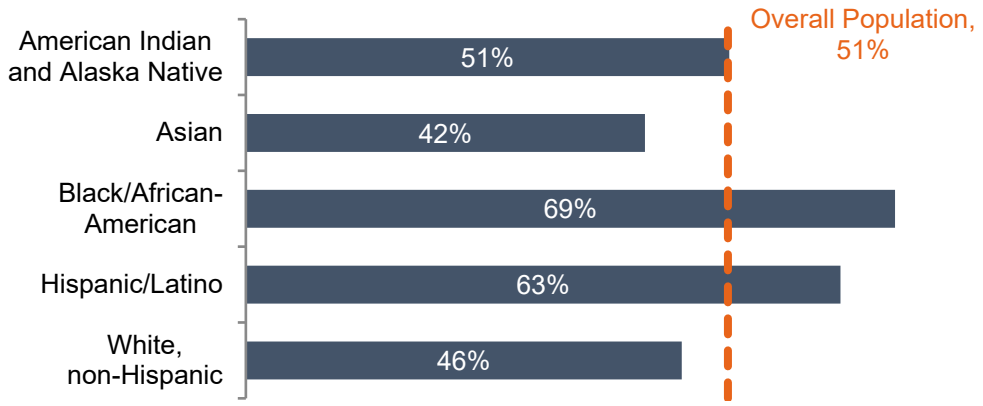

Figure 25. Proportion of Children (under Age 10) Living in Census Tracts Where the Ratio of Children to Child Care Slots Is Greater than 5 to 1, by Race/Ethnicity

Approximately half of providers are currently caring for at least one child with exceptional needs.

The survey asked providers to indicate whether or not any of the children currently in their care have any of the following characteristics:

- Special needs (learning disabilities, food allergies, asthma, etc.)
- Homeless
- Migrant
- Speaks a language other than English at home

Overall, 47% of providers indicated that they are currently serving children with special needs, 5% are serving children who are homeless, 1% are serving children from migrant families, and 23% are serving children who speak a language other than English at home. As shown in Figure 26, across all four needs categories, a higher proportion of centers are serving children with special needs than group homes and family homes.

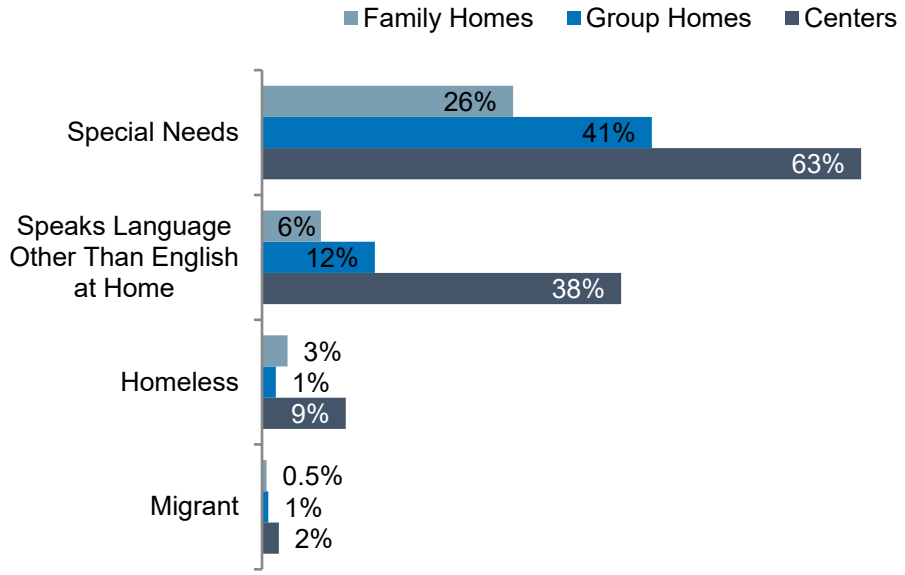

Figure 26. Proportion of Providers Currently Caring for Children with Exceptional Child Care Needs, by Category of Need and Provider Type

Less than a quarter of providers offer care during non-traditional hours.

Parents who work in the early morning, evening, overnight, or during the weekend will likely have a hard time finding a licensed provider that offers care when they need it. Only 24% of providers indicated that they provide care before 7:00 a.m., 14% provide care after 6:00 p.m., 6% provide care during the weekend, and 6% provide care overnight. As illustrated in Figure 27, those who do need care during non-traditional hours are more likely to find it among home-based providers than centers.

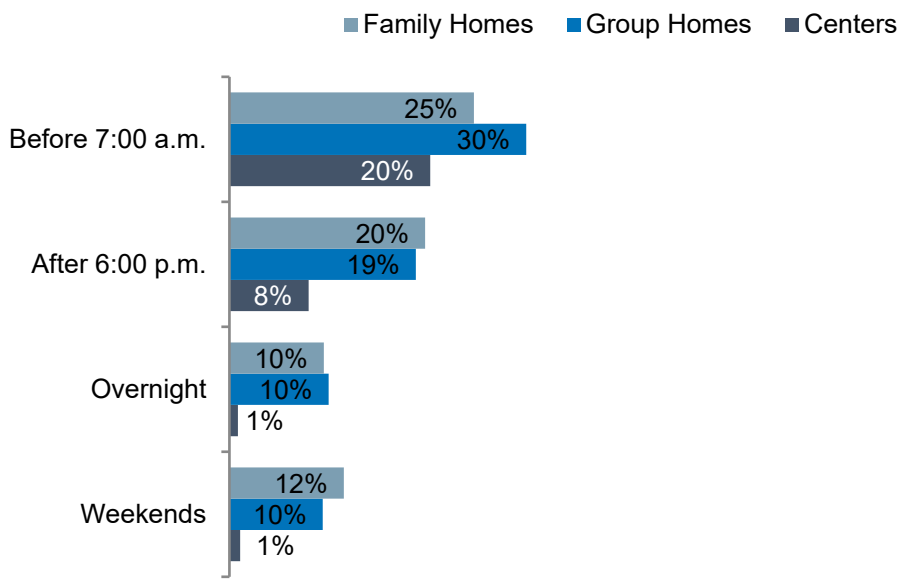

Figure 27. Proportion of Providers Who Offer Care During Non-Traditional Hours, by Provider Type

Most providers are willing to provide child care for families receiving subsidies.

For low-income families that qualify for Child Development and Care (CDC) benefits, providers must exist who are willing and approved to care for children receiving subsidies. Overall, 89% of providers indicated that they are either currently caring for children receiving subsidies or are willing to care for subsidized children in the future.

Although centers were more likely than home-base providers to indicate that they are currently caring for children receiving subsidies, the proportion of providers who indicated that they will not accept any subsidized children in the future was low across all provider types.

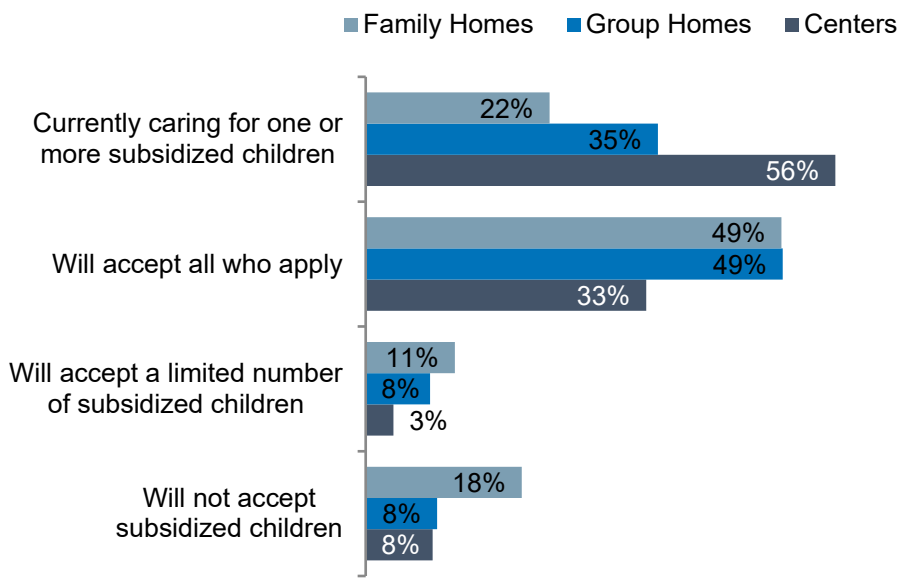

Figure 28. Proportion of Providers Currently Serving or Willing to Serve Families Receiving Child Care Subsidies, by Provider Type

The data suggest that willingness to serve families receiving subsidies increases as quality ratings increase. This pattern is consistent with findings from the previous market rate survey and suggests that Michigan's policy to pay higher subsidy rates to providers with higher star ratings has encouraged higher-rated providers to serve more families receiving subsidies. As a result, families receiving subsidies gain increased access to high-quality child care.

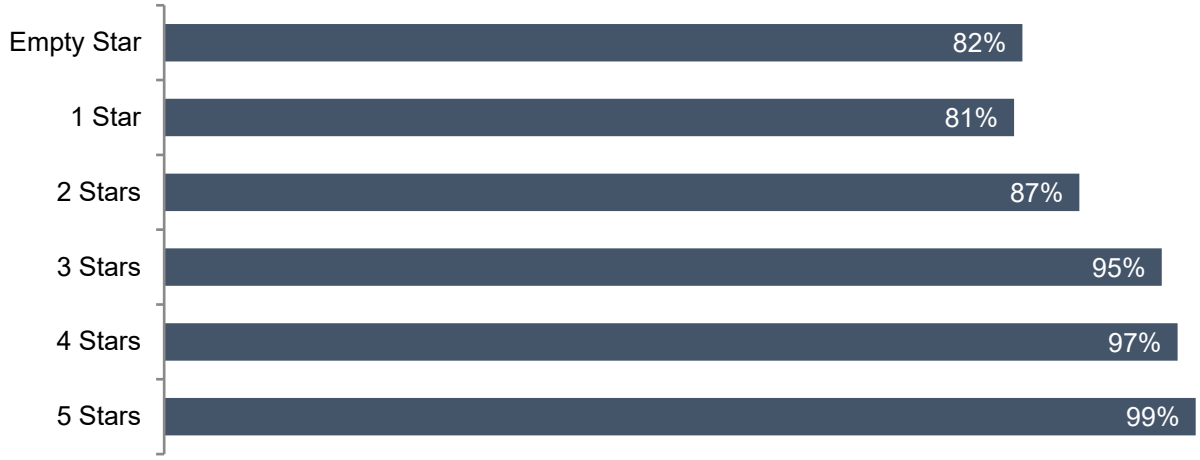

Figure 29. Proportion of Providers Who Indicated They Are Either Currently Serving or Willing to Serve Families Receiving Child Care Subsidies in the Future, by Star Rating

Rates, co-pay collection, and timing issues were cited by providers as the most challenging aspects of accepting the subsidy. Providers most frequently cited the length of time it takes a

family and the provider to receive notices of changes to eligibility, current reimbursement rates, and challenges collecting co-pays from families. See Table 4 for additional challenges reported by providers.

Table 5. Providers' Perceptions of Challenges With Serving CDC Families

Challenges	Proportion of Providers
It takes too long to receive an eligibility determination from the State.	44%
The payment rates are too low.	42%
It is difficult to collect co-payments from families.	40%
There is a limit on the number of hours that can be reimbursed.	38%
Communication from the State is poor (e.g., I don't know when families are dropped).	38%
Subsidies pay for care after service is provided rather than before.	30%
The attendance tracking requirements are too much work.	24%
The subsidy billing rules do not match my billing policy.	17%
There are not many families in my area who qualify for subsidies.	15%

Table 5 summarizes the most common open-ended responses from providers when asked to suggest ways to improve the CDC process. Providers were most interested in seeing improved efficiency and better communication with providers regarding eligibility determinations. Providers also recommended increasing reimbursement rates, simplifying attendance tracking and billing processes, and adjusting payment schedules to better match what providers are doing. Some of the other recommendations offered by providers include improving communication with families regarding co-pay requirements, expanding eligibility criteria and increasing the number of approved hours to allow more families to access care, and providing additional training opportunities for providers.

Table 6. Providers' Recommendations for Improving the CDC Program

Recommendation	Proportion of Providers
Improve efficiency and communication related to enrollment and eligibility determinations.	24%
Increase reimbursement rates.	12%
Adjust payment schedule and billing policies to match provider practices.	7%
Simplify attendance tracking and billing processes.	7%

THE IMPACT OF COVID-19

As noted previously, the COVID-19 pandemic has had a significant impact on the child care market. Child care providers and early childhood education centers were exempt from executive orders issued in March 2020 that required K-12 schools and universities to close for in-person learning for several months.[22] However, with so many parents laid off or forced to work from home and/or opting to keep their children out of child care and others having to tend to school-aged children learning remotely, declining attendance and enrollment forced some providers to close. Others opted to close out of concern for their own health and the health of the children and families they served. Of those providers that closed during 2020 due to the pandemic, some have since reopened, but others remain closed and may or may not reopen in the future.

To better understand how the unique context of the pandemic might be affecting child care market rates, the survey included several questions to collect additional detail from providers about the impact COVID-19 has had on their current enrollment and current prices.

Nearly one year after the start of the pandemic, most providers report fewer children in care.

The survey asked providers how the current number of children in care compares to the number of children in care at the same time last year. Seventy percent of providers indicated that there are fewer children in care now, and nearly all of those providers indicated that the change in enrollment is partly or mostly due to COVID-19. As reflected in Figure 30, decreased enrollment has been a larger factor for centers compared to home-based providers.

[22] Executive Order No. 2020-05, *Temporary prohibition on large assemblages and events, temporary school closures* (March 13, 2020), Whitmer - Executive Order 2020-05: Temporary prohibition on large assemblages and events, temporary school closures - RESCINDED (michigan.gov)

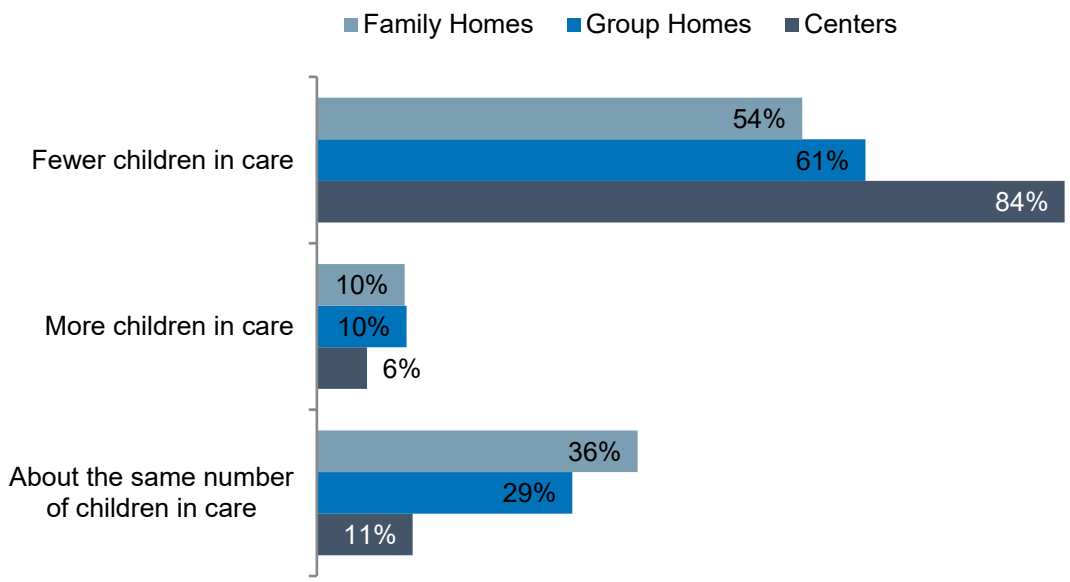

Figure 30. Pandemic-Driven Changes in Child Care Enrollment, by Provider Type

Very few providers have changed what they charge for child care.

Only 17% of providers indicated that the COVID-19 pandemic changed the amount they charge for child care. Among the small group of providers that changed their rates, nearly two-thirds (64%) indicated that they *decreased* their rates, while only 34% increased rates and 6% now charge families an additional fee to cover the increased costs associated with preventing the spread of COVID-19. Furthermore, among the 34% of providers with increase rates, the majority (61%) increased rates by less than 5%. Figure 31 shows the breakdown by provider type. Although the basic pattern is the same across provider types, a slightly higher proportion of centers than home-based providers indicated that they raised rates.

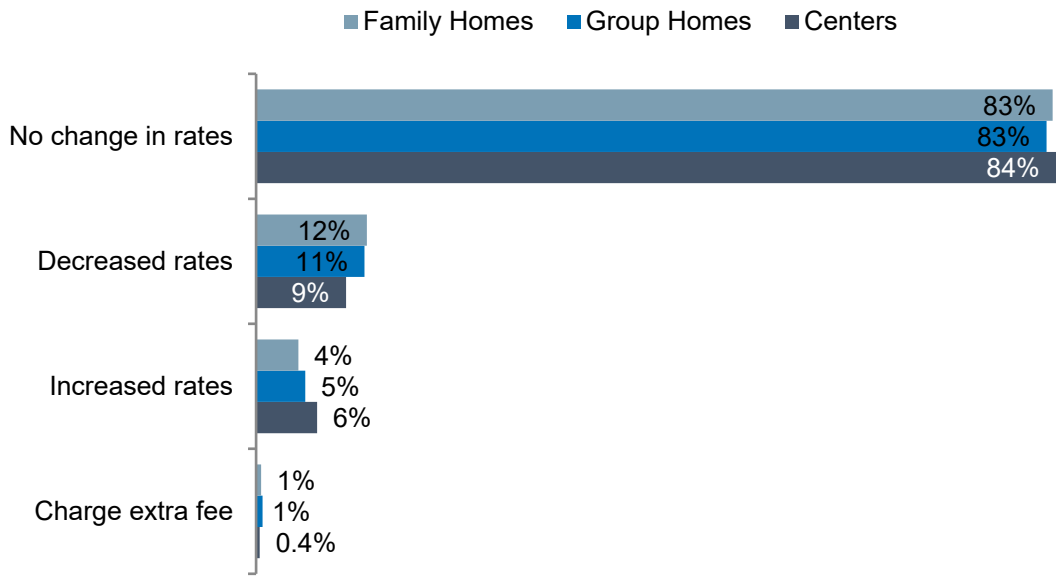

Figure 31. Pandemic-Driven Changes in Child Care Prices, by Provider Type

COST OF PROVIDING QUALITY CHILD CARE

In addition to the rates that providers charge, a complete understanding of the child care market in Michigan requires information about the costs that providers bear in providing quality child care services. In setting tuition prices and other fees, child care providers, like other businesses, must respond to supply and demand in the local market. To examine the costs that providers incur and how well these align with the market rates set, Public Policy Associates researchers conducted a cost analysis that used expectations of revenues and expenses in a number of contexts to estimate the profitability of child care providers in Michigan.

The cost analysis drew on a variety of sources to gather data about estimated costs:

- The 2020 Michigan Market Rate Survey
- The Bureau of Labor Statistics
- The Michigan Department of Licensing and Regulatory Affairs (LARA)
- The Michigan Department of Education, Office of Great Start
- The Center for Educational Performance and Information (CEPI)
- The Early Childhood Investment Corporation
- Interviews with a random sample of 24 child care centers, group homes, and family homes

The principal tool used to conduct the cost analysis was the Provider Cost of Quality Calculator (PCQC). Developed on behalf of the U.S. Department of Health and Human Services Office of Child Care, this tool allows researchers to estimate the net revenue of different types of child care providers in different scenarios based on changes to inputs like number and compensation of staff, enrollment, tuition and subsidy rates, and other costs and revenues.

The biggest cost driver for providers is staffing.

As with many service-oriented industries, the most prominent cost for child care providers is personnel. Based on the PCQC estimates, approximately 70% to 80% of operating costs for child care centers are linked to staffing. These costs include salaries, mandatory benefits (i.e., worker's compensation and unemployment insurance), and paying substitutes when staff are on leave. These costs are relatively inflexible, given requirements on maximum group sizes and child-to-staff ratios.

According to interviews with providers, ensuring an adequate and stable supply of trained staff was a major concern of all providers that hired additional personnel. Providers also faced high average annual turnover rates: 24% at centers and 80% at group homes.

While staffing was cited as the greater cost driver, interviewees also noted the costs of fingerprinting, CPR certification, and teacher-to-child ratios as significant cost factors. A majority of respondents of all provider types stated that their current tuition rates generally covered the costs of providing care, although home-based providers were not clear about whether they included their own income in the estimation of costs. On average, providers reported increasing their rates between one and three years ago, although there was considerable range in these figures.

Many home-based providers are making less than minimum wage.

For home-based providers, personnel costs function quite differently. While many group homes have assistants (making just above the minimum wage), who constitute on average a large proportion of total costs, home-based providers also tend to draw their personal income from net revenues. Re-defining these profits as "personnel costs" (because they constitute wage income for the proprietor) results in personnel costs for home-based providers that are also a large percentage of total costs. Still, many of these providers are making less than the minimum wage, which is $9.65/hour in Michigan).

The Child and Adult Care Food Program (CACFP) plays a critical role in the financial health of child care providers.

Non-personnel costs make up a much smaller portion of provider operating costs. They include fixed facility costs; classroom, educational, and office supplies; and consultant and training costs, among other components. Supplying food is a key expense of child care providers, as evidenced by the considerable impact of the CACFP program on center net revenues. The CACFP subsidizes the provision of food for free and reduced meal-eligible families, thus defraying the cost of care for these children. According to the PCQC model, licensed centers that participate in the CACFP program have substantially higher net revenues than those that do not. In our analysis of 4-star centers with 54% of their children from low-income families (the state average in kindergarten, according to CEPI data), these providers had an estimated net revenue of 12.2%, which dropped to 2.6% if they did not participate in CACFP. Similar results were found for home-based providers.

Higher quality ratings increase provider costs.

The Great Start to Quality's quality rating and improvement system (QRIS) assigns ratings, or "stars," to licensed child care providers based on a detailed point system. Points are granted based on provider characteristics associated with high quality. These include staff credentials

and professional development, family and community engagement, administrative capacity, health and physical safety, curriculum and assessment, and smaller child-to-teacher ratios.

Higher QRIS star ratings are therefore associated with higher operating costs for child care providers, and in particular higher personnel costs. The chief reason is that the QRIS system awards higher ratings to providers whose personnel have more early child care-specific training and education. Even at lower-rated providers (including home-based providers), staff are expected to have at least a Child Development Associate (CDA) credential, which requires a fee and professional education. With more credentials, staff expect greater compensation, thus increasing staffing costs.

The lower teacher-to-child ratios expected of higher-rated providers also necessarily increases personnel costs by increasing the number of staff required. Holding all other factors such as enrollment and poverty level fixed, child care centers with higher star ratings had higher total personnel costs than those with lower ratings. Two-star centers had total personnel costs that were nearly 40% lower than 5-star centers in the analysis. Differences in non-personnel costs were negligible.

Interviews with providers found that there was little appetite for moving to a higher star rating, largely due to the increased costs a provider would incur. This reluctance was largely due to the difficulties of finding adequately trained staff and the wages necessary to pay them. There was also frustration at delays in the certification of staff in the Michigan Registry (www.miregistry.org) system.

The CDC program strengthens provider finances and enhances access to child care.

The Child Development and Care (CDC) subsidy rates are designed to balance the greater costs of attaining higher QRIS ratings. The reimbursement rates are higher for higher star ratings, which is designed to partly defray the costs of moving to a higher QRIS rating level while trying to keep child care affordable for low-income families. However, according to the Market Rate Survey, the average tuition rate for licensed providers is often higher than the subsidy rate. Providers have the option of charging parents the difference; if they choose not too, it necessarily reduces the revenue per child.

There is some evidence that the CDC subsidy and QRIS rating system have been successful in increasing the availability of high-quality child care for disadvantaged children. According to the Market Rate Study, 39% of children in licensed centers are receiving CDC subsidies, a proportion that rises steadily with star ratings: from 32% at 2-star centers to 51% at 5-star centers. Assuming that there is a strong relationship between the proportion of CDC recipients and the proportion of low-income children at a center, this suggests that highly rated centers have a larger proportion of poor children than lower-rated ones. This higher percentage of CDC recipients partly offsets the costs of higher quality levels, although it should be noted that the PCQC model suggests that lower-rated centers have higher rates of profitability. Similarly, by

defraying the cost of food, participation in CACFP also bolsters the bottom line of highly-rated centers with a large share of disadvantaged children—even if not all of them receive the subsidy.

Based on this analysis, home-based providers benefit from having higher star ratings. Each increase in the star rating is associated with higher estimated net revenue and higher imputed hourly wages for providers. For family-home providers, the imputed hourly wage rises from $8.45 an hour at 1 star to $13.13 for 5 stars. This is likely because average tuition rates tend to be close to subsidy rates (or sometimes even under subsidy rates), as found in the Market Rate Survey. As with centers, participation in CACFP and a higher proportion of CDC recipients is associated with greater net revenues for home-based providers.

The pandemic has weakened providers' financial situations.

COVID-19 appears to have increased costs to providers while reducing revenues. In interviews, providers noted the powerful effect of the pandemic. COVID-19 resulted in lower enrollments and higher costs required for cleaning (both in time and supplies), as well as additional personnel and direct costs to ensure safety protocols were adhered to (especially at centers). Most interviewees expected these increased costs to remain permanent.

COVID-19 may also be responsible for the higher numbers of open slots in the 2020 Market Rate Survey. While the 2017 survey had an average of 88% enrollment efficiency (the proportion of open slots to capacity), centers and family-home providers reported in February 2021 enrollment efficiency levels of 69%, and group homes had enrollment efficiency of 77%. Unfilled slots are lost revenue to providers, which affects the profitability of child care providers. The analysis presented thus far assumes that providers' daily enrollment is at the PCQC default rate of 85%. However, if this number is lower because of shorter hours or fewer students (and hence less tuition and subsidy revenue), it has a major effect on the net revenue of providers. If the lower enrollment efficiency indicated in the Market Rate Survey is indicative of long-term trends during the pandemic, it would result in serious financial losses to providers. However, several providers interviewed as part of this study indicated that state grants (including the Child Care Relief Fund grants) played a critical role in compensating for lost enrollment.

CONCLUSIONS AND RECOMMENDATIONS

The survey results and associated study of the cost of providing quality child care demonstrate an ongoing disconnect between market rates and the subsidy rates, despite the January 2021 Child Development and Care (CDC) program rate increases. Overall, subsidy rates fall below the 75th percentile of the market for all child age groups and for all provider types. The value of the subsidy is critical for many families in accessing child care. Still, it is falling short, and providers need to account for the difference by charging families for the gap between prices and the subsidy rates. As a service industry, providers must have staffing that is qualified and competent, with increasing credentials if they are to achieve higher star ratings. The costs for those staff, background checks, and other factors add up. However, families can only afford to pay so much, so the result is a business model dilemma where profit is tenuous at best and a portion of providers are working for less than minimum wage.

Fortunately, most providers are willing to participate in the CDC program, many offer care to children with special needs, and a large portion are participating in the Great Start to Quality rating system. Michigan should build on these strengths and continue to attempt to make the CDC program as fair and accessible as possible. Recommendations include:

- Increase reimbursement rates to providers to meet 75th percentile of market rates. Continue to offer rate differentiation by provider type, quality rating, and child age groups.
- Find ways to increase the number of providers offering non-traditional-hours care.
- Increase the registration fee allowance for subsidy families to align with current fee averages.
- Incentivize increases in child care slots in rural areas and for Black and Hispanic/Latino families.
- Coming out of the pandemic, Michigan will likely see a rapid increase in demand for child care as employment increases and schools reopen for in-person learning; providers will need to accommodate that acceleration in child care demand. Policymakers should consider options for supporting providers in that process, such as through ramp-up grants for staff hiring, helping new providers get started, and communication efforts to help families connect with providers.

APPENDIX A: METHODOLOGY

Sampling Frame

The sampling frame for the market rate survey was developed from Michigan Department of Licensing and Regulatory Affairs (LARA) child care licensing records, Early Childhood Investment Corporation/Great Start to Quality data (ECIC data), and grant recipient contact information from the Child Development and Care (CDC) program. Data from these sources were combined to generate as many methods of contacting each provider as possible. The initial file of licensing records was downloaded from the LARA website on September 15, 2020 and had 8,339 records. ECIC data (8,334 records) and CDC grant recipient contact data (5,475 records) were supplied by the Michigan Department of Education (MDE) in mid September 2020. After compiling data from those sources, the original combined dataset contained 8,394 unique provider records.

However, due to the COVID-19 pandemic, it was unclear how many child providers were currently open and in operation. To avoid wasting effort attempting to solicit survey responses from providers that were closed, after consulting with MDE, the survey universe was limited to licensed providers who were open and providing care at the time of the survey's launch. To determine which providers were open, Public Policy Associates (PPA) used data collected from providers by ECIC and LARA.

To assist families searching for open child care during the pandemic, ECIC added fields to the online Great Start to Quality (GSQ) database that allowed providers to voluntarily indicate whether or not they remained open or were temporarily closed due to the pandemic. In addition, in August 2020 through September 2020, child care licensing consultants contacted every provider on their caseloads to ask about current operating status. MDE shared the data compiled by the licensing consultants with PPA in September 2020. To avoid excluding any open providers, if the current operating status was unclear or unknown for a provider, the provider was assumed to be open and remained on the list. After identifying and removing closed providers, the final sample frame included 7,002 providers.

ECIC email addresses were established as the preferred address for outbound survey invitations, and, where a separate email address existed in billing records, that address was established as the secondary email address. Similarly, ECIC telephone numbers and mailing addresses were the preferred options, with data from the other sources used to fill gaps. All of the records included mailing addresses; 99% (6,952) of the records had a phone number; 68% (4,794) of the records had at least one email address.

Several telephone numbers and several email addresses were associated with multiple child care facilities. Three-hundred-seventy-nine sites (5%) were not entered into the direct email and telephone survey lists, but were instead reserved for the hard-copy mailing and listserv outreach: at these sites, either the email address or the telephone number was associated with

10 or more sites, creating the potential for one individual to be contacted an unacceptable number of times. The remaining records were flagged to indicate whether the contact was associated with multiple sites or only one.

Pre-Survey Provider Outreach

In preparation for fielding the survey, PPA worked in collaboration with MDE to notify providers of the survey and the importance of provider participation. PPA mailed each licensed provider an introductory postcard with the MDE and PPA logos that explained, simply and persuasively, the purpose of the impending survey, and the benefit to children, families, and providers of completing it. In addition, general brief notices were distributed through existing MDE, LARA, and various child care resource and referral agencies and provider networks, including the Great Start Collaboratives (e.g., newsletters, email listservs, social media, and website posts). The notifications included information about the timing of the survey, as well as details about informational webinar participation opportunities, which are described below.

PPA prepared and conducted three live informational webinars to inform all interested partners and providers about the importance of the survey, how it would be conducted, and how they could participate. Questions received during the webinars were used by PPA to create an FAQ document, which was posted on the MDE/Office of Great Start website.

Paper Survey

In an effort to increase the response rate from the 2017 survey, a paper version of the survey was included as an additional response option along with the online and telephone options. A survey packet was mailed to each provider address. The survey packets included a letter describing the purpose of the survey and instructions, along with a postage-paid return envelope for submitting completed responses. In cases where more than one license number was associated with a single address, only one survey packet was sent to the address. Therefore, the instructions included directions for accessing the online survey to enter responses for additional license numbers. In total, 6,803 paper surveys were mailed during the week of October 26, 2020.

Online Survey

The online survey included both an anonymous version distributed through child care listservs in Michigan and a targeted version using the contact information from the sampling frame. The survey vendor, Dynata, began the process by distributing email invitations to all providers with a valid email address on October 26, 2020. At the same time, representatives of MDE distributed the anonymous survey link through various listservs.

Respondents completing the survey through the anonymous link were asked to key in their license number, and the survey software conducted a search of the data for the matching business. Where located, business information (street address, name, county, etc.) was placed on the screen for respondents to confirm and/or update. Where respondents did not have their

license number (or mis-keyed it), respondents were asked to supply the business name, address, county, and type of facility—group home, family home, or child care center.

Online options remained open even after telephone follow-up began.

Telephone Follow-Up

Telephone follow-up began on November 30, 2020. For named respondents associated with multiple child care facilities, interviewers asked if the multiple sites all charge the same prices and offer similar experiences, and if the respondent was able to provide the total number of enrollees and slots available for all locations combined. If all these questions were answered with "yes," the interviewer completed the survey once for all locations. If prices or programs differed or the respondent could not access system-wide information on enrollment, the interviewer selected one location and directed the respondent to focus on that location only.

Dynata and PPA worked together to monitor completion rates by facility type, region of Michigan, and star rating. Online and telephone data collection concluded on January 8, 2021. The final paper surveys were also received in early January 2021.

Data Cleaning

Data Merging

At the conclusion of online and telephone data collection, Dynata provided PPA with an electronic data file containing 3,092 response records, and PPA received an additional 1,008 returned paper surveys.

Close-ended response data from the paper surveys were scanned into an Excel spreadsheet using Remark Office OMR software, and open-ended response data from paper surveys were manually entered by PPA staff. The data-entry process was tracked and monitored to ensure quality. Once data entry for the paper surveys was completed, the data were merged with the online and telephone response data to create a single data file containing 4,100 records.

Inaccurate and Missing License Numbers

Problems with license numbers emerged from the online surveys accessed through the generic web link, as well as the paper surveys, for which providers were asked to enter their license number when available. Several completed surveys had no license number, and several had an improperly keyed license number. One-hundred-fifteen surveys ultimately could not be used because no provider matching the license number, business name, and/or street address provided by the respondent could be identified in the LARA database.

Duplicate Surveys

Several facilities completed more than one survey, resulting in 794 duplicates. A tiered decision procedure was used to determine which duplicate would be retained. Perfectly identical

responses were deleted, preserving the first response submitted. All reported rates were converted to hourly rates (see below), and average rates calculated when more than one rate structure was reported (this privileged responses that reported rates). The survey response with the highest average hourly rate was then selected for the main dataset. Of the remaining, web and phone surveys were prioritized over paper surveys, and then priority went to the responses that were submitted at an earlier date. This sorting procedure reduced the total number of duplicate entries to seven, which were then examined visually to determine which survey had more complete data.

Closed Providers

Of the remaining 3,191 unduplicated responses, 183 indicated they were closed and were eliminated from the sample for analysis.

Participation Rate

The final analytic data set included 3,008 unduplicated responses from open and active facilities. Determining the response rate depends on the assumptions made about the appropriate sample population and sample universe. As described above, the identified target population included a total of 7,002 open and active providers at the time the survey was fielded. However, in addition to the 183 respondents that indicated they were, in fact, closed, 100 providers who were not originally included in the target population of open providers participated in the survey and indicated they were open. Therefore, using survey information to correct the number of open or closed providers reduced the approximate sample universe of open providers to 6,896. This yields a response rate for open providers of 44%. Response rates were above 40% for all three types of providers, although centers had a lower response rate (40%) than family homes (45%) or group homes (48%).

Weighting

The survey data were weighted on the basis of facility type (center, family home, or group home) and region of the state. Because of the prevalence of small-population counties with few child care providers (and sometimes zero providers of a particular type), the American Community Survey (ACS) Public Use Microdata Area (PUMA) areas were used to classify providers by geographic region. PUMAs are geographic units of at least 100,000 residents that observe political boundaries. For counties with small populations, adjacent counties are grouped based on similarity of demographic profiles until the total population reaches 100,000. High-population counties with much more than 100,000 residents are divided in the ACS into multiple PUMAs. For the purpose of this study, PUMAs within a county (e.g., Wayne and Kent) are aggregated to create a county-level identifier. This results in 26 specific geographic regions. Weights represented the percentage of cases in the sample frame in the given category divided by the percentage of cases in the sample in the given category. For example, if 4% of cases in the sample were group homes in Wayne County and 5% of cases in the sampling frame were group

homes in Wayne County, the case weight would be 0.5/0.4, or 1.2. This would mean that when conducting analysis, each facility of this type in the geographic region would be counted as 1.2 providers, rather than simply 1, so that final estimates would reflect the balance of provider types and geography in the state as a whole.

Imputing Hourly Rates from Other Reported Rate Structures

The Market Rate Survey methodology requires that, when providers use price structures that are other than hourly, those other rates be converted to an hourly rate. The survey allowed each provider to describe up to two rate structures for full-time enrollees and up to two rate structures for part-time enrollees. The rate structures could be hourly, half-day (part time only), daily, weekly, monthly, or some other structure described by the provider. The rates were reported separately for infants, preschoolers, school-aged children, and school-aged children during the summer.

For each full-time rate structure other than hourly, PPA calculated an imputed hourly rate based on a 9-hour day. Other methods of converting to hourly rates were explored, including: division by average number of hours, hour days, and reported days open multiplied by 8- and 9-hour days. Unfortunately a number of respondents appear to have become confused about the average number of hours children were served (i.e., hourly, daily, or weekly), leading to implausibly extreme values. The imputed 9-hour day led to the most stable values, but results should be interpreted with some caution. To account for potential errors in respondent reporting about rate structures and to limit the impact of extreme outliers, we first identified values that were replicated across price structures. If the reported rate for a shorter period of time was identical to or greater than that for a longer period of time (i.e., hourly rates were the same as daily or weekly rates), then the values for the shorter time period were re-coded as missing. Next, outliers were identified for each rate structure by calculating the interquartile range (the difference between the 75th and 25th percentile). Rates that were more than three times greater than the interquartile range were labeled as outliers and re-coded as missing data.

Part-time rate data were used to supplement pricing information where full-time rate data was missing. To impute an hourly part-time rate where one was not provided, the rate provided was divided by the average number of hours part-time children are in care for that rate. If necessary, providers' open-ended descriptions of how they define part-time care were used to correct the average hours in care.

The final blended hourly rate for each provider, was estimated by taking the maximum hourly rate from among the provided hourly rate or the imputed part-time, daily, weekly, monthly, or other rates. These rates were calculated separately for infants, preschoolers, school-aged children, and school-aged children during the summer. The resulting rates were calculated with weights for geography and facility type.

The cost analysis required weekly rates rather than hourly rates. These rates were calculated by multiplying the previously estimated full-time hourly rate by 45 (i.e., 5 9-hour days), weighted by geography and provider type.

Statistical Reliability and Validity

The U.S. Department of Health and Human Services, Administration for Children and Families has established a set of standards for assessing the statistical reliability and validity of child care market-rate surveys. As noted in the regulatory language, these standards were derived predominately from the 2008 Study of Market Prices: Validating Child Care Market Rate Surveys from the Oregon Child Care Research Partnership. The standards are paraphrased below, and for each, we assess the 2020 Michigan Market Rate Survey process and results relative to the standard:

1. Includes the priced child care market. The survey includes providers that charge a price established through an arm's length transaction, i.e., not relatives or friends.

   The 2020 Michigan survey targeted the priced child care market as recommended.

2. Provides complete and current data. The survey is based on a comprehensive sampling frame that fully captures providers in the priced market. The survey reflects up-to-date information for a specific time period.

   The 2020 Michigan survey was based on a sampling frame of all open licensed child care providers in the priced market. The survey was conducted over a three-month period with results promptly reported. Because the pandemic resulted in short- and long-term fluctuations in the activity of child care providers, the estimation of the sample universe and response rates have higher levels of uncertainty than normal.

3. Represents geographic variation. The survey includes providers from all geographic parts of the state and reports price data by sub-state regions.

   The 2020 Michigan survey included providers from every county and price data are reported by Great Start to Quality region.

4. Uses rigorous data-collection procedures. The survey uses quality procedures, regardless of the method (mail, telephone, or web survey), or administrative data. The data includes a response from a high percentage of providers (65%or higher is desirable and below 50% is suspect). Understanding that response rate is only one aspect of survey reliability and validity, the sample design should be strong and the impact of nonresponse bias should be carefully examined to ensure the full universe of providers is reflected in the findings. Surveys should be conducted in languages other than English, and other steps taken to reach key subgroups.

   While every effort was made to ensure quality data-collection processes within the scope of time and resources available to the team, the overall participation rate for the 2020 Michigan survey was 44%—well below the target response rate, although substantially increased relative to the prior Michigan survey.

When response rates are less than what best practices recommend, analysts should examine the respondents in comparison to non-respondents to try to identify any systematic differences between the groups. Previous analysis using 2017 Market Rate Survey data suggests that while survey respondents are more likely to participate in the subsidy program, have larger total capacity, and have been in operation for longer, differences in rates were not statistically significant and not consistent in terms of which rate was higher (i.e., among the providers with or without IBilling records). As such, PPA chose to not weight data based on IBilling records or facility age based on these findings that no bias (related to prices) was introduced by differences in the characteristics of responding providers versus nonresponding providers.

5. Analyze data in a manner that captures market differences. The survey should examine price per child care slot as larger providers serve more families. Samples should be weighted, and price data should be collected and analyzed separately for different age groups and categories of care.

   Estimated rates were weighted by geographic region based on aggregated PUMAs and provider type, and results were analyzed separately by star rating (where available), age group, and type of care. As in past years, calculating price per slot of was complicated by ambiguities in reported capacity. Licensing records have one data point for capacity—total permitted capacity at any single time. While survey questions asked providers to identify the number of slots for children in each of the four age groups, PPA found that reported slots, in aggregate, were substantially greater than known capacity. For example, a provider might have a state-reported capacity of 100 and report 30 slots for infants, 45 slots for toddlers, 45 slots for preschool, and 30 slots for school-aged children, totaling 150. While we believe the discrepancies are a function of part-time attendance and specialty programs(100 half-time preschoolers is compatible with a capacity of 50), the data are inadequate to fully disentangle which children are being served full time and which are being served part time, which is the data needed to allocate total capacity to the varied age groups.

   If we were to weight reported rates for infants, toddlers, preschoolers, and school-aged children alike by the single capacity in licensing records, we would have been assigning the full capacity of any facility to each age group—a real distortion if one considers the differences between three centers with capacity of 100, the first of which serves children across the age ranges, the second of which specializes in preschool, and the third of which specializes in part-time service and cannot accommodate families with parents working full time.

   These considerations are strengthened by the effects of the pandemic on child care providers. Limits on the total number of children, proximity of children, periodic shutdown orders (with exceptions for essential workers), stay-at-home orders for adults, and remote learning for children, all introduce considerable uncertainty into properly estimating provider capacity.

Methods-Related Recommendations for Future Surveys

Institutionalize the data-collection process. At present the market rate information is collected at very prolonged intervals. This makes it difficult to collect timely data that can inform policy-making and poses a significant challenge to outreach efforts. Other states have had success in establishing a system for regular check-ins (biannually or quarterly) to collect basic contact, enrollment, and rate data. This strategy can lead to much higher response rates and more sensitive data.

Help providers distinguish between a billing cycle and a price structure. When asked to describe how they charge, many providers inadvertently mixed their thoughts about how they charge with when they bill. For example, a provider who charges hourly but bills weekly or monthly might have reported that they charge weekly and the rate is $3.75. Focus groups and intensive pilots should be employed to determine the most effective means for promoting sense-making in the taking of the survey and reporting of rates.

Collect fewer rates per provider. The distinction between full-time rates and part-time rates was not particularly useful in the survey insofar as providers appear to define “full time” and “part time” in their own terms.

Ask providers to confirm an imputed hourly rate as a means of getting corrections made. Online surveys and operator-assisted programming is adequate today to share the math with providers taking the survey and enlist them in making corrections. If providers enter bad data, it should be immediately apparent to them if an imputed rate can be fed back for confirmation.

Add governors to fields capturing rate and hours data to reduce the amount of erroneous data entry. For example, hourly rates for infants are highly unlikely to be less than $2 or more than $20, and hours-in-care for a provider charging weekly should be at least 10 and less than 100.

Improve interviewer training. When providers reported a rate of “one sixty” for weekly care, interviewers sometimes entered this as $1.60 and sometimes as $160.

If the survey is distributed via listserv, make effort to clarify for recipients what other outreach has occurred. If those receiving an email know that someone else in their building may already have completed the survey, it may reduce the amount of duplication.

Provider Cost-Analysis Methods

To assess the cost of quality care to meet the health and safety standards in Michigan, PPA used a pre-programmed model: the Provider Cost of Quality Calculator (PCQC) developed for the U.S. Administration for Children and Families’ Office of Child Care by Andrew Brodsky and Simon Workman at Augenblick, Palaich and Associates and Anne Mitchell at the Alliance for Early Childhood Finance. The PCQC is a dynamic web-based tool that calculates the estimated cost of the inputs used by providers to deliver services at various levels of quality. The PCQC

model considers hypothetical expenditures and revenues for child care centers and home settings separately.

To determine what impact various factors thought to be cost drivers could have on the bottom line for operating costs, the model was used to create multiple scenarios by systematically altering several of these factors. This is a sensitivity analysis. Cost drivers that were manipulated for assessment include:

- Level of star rating
- Quality activities such as additional professional development time and conducting screenings
- Child-to-teacher/caregiver ratios
- Enrollment as a percentage of capacity
- Percentage of families receiving the CDC subsidy
- CACFP participation and mix of eligible children

Data Sources

While the PCQC provides default values for center and home expenditures, the user guide provides direction to refine those data with more accurate values to better reflect the current costs in Michigan. To accomplish the task of gathering more accurate data to use in populating the PCQC scenarios, PPA first determined what model questions could be answered using secondary data sources. The secondary data sources used for the study are summarized in Table 7.

Table 7. Summary of Secondary Data Sources and Their Use in the PCQC Model

Source	Type of Data Accessed	Use in PCQC Model
Bureau of Labor Statistics (BLS)	2019 salary estimates for child care workers in Michigan	Estimate personnel costs
Early Childhood Investment Corporation (ECIC)	Great Start to Quality standards and ratings data	Adjust model inputs, including salary levels, child-to-teacher ratios, staff time for quality-related activities, and assessment costs, based on common differences among providers at different star ratings
Michigan Department of Education (MDE)	Current CDC subsidy rates, by age group in care, provider type, and star rating	Estimate revenue from subsidies
Center for Educational Performance and Information (CEPI)	Base rates for free and reduced lunches for kindergarten	Estimate revenue from Child and Adult Care Food Program (CACFP) participation

Source	Type of Data Accessed	Use in PCQC Model
2020 Michigan Child Care Market Rate Survey	Full-time weekly tuition rates and enrollment data	Estimate revenue from tuition and average enrollment as a percentage of overall capacity

As a means of testing and further refining the PCQC input values, PPA conducted interviews with 24 child care providers. Providers were selected using a stratified random-sampling scheme, with licensed providers stratified by provider type (centers, family homes, and group homes) and whether they had a star rating. Separate interview tools were developed for centers and home-based providers, which are included in Appendix B. The questions in both instruments focused on each provider's estimates of annual operating costs, including both personnel and non-personnel costs. Cost components were grouped in a manner that would allow PPA to ask providers fewer questions about the cost items, while still being able to enter accurate estimates into the PCQC tool. The interviews also provided the opportunity to collect provider input on the factors that most influence tuition rates, the impact of current regulations on costs, and the costs associated with providing quality child care and in meeting health and safety requirements. In addition, interviewees received $50 for their participation.

Model Inputs and Assumptions

Base scenarios for the average 4-star center, 3-star family home, and 3-star group home were constructed in the PCQC tool.

Overall Assumptions

All scenarios used the following State of Michigan definitions for age groups:

- Infant/toddler – birth to 30 months
- Preschool – 30 months until eligible to attend kindergarten
- School-age – kindergarten or 5 years old but less than 13 years

School-age children were found to be problematic in the scenarios because the PCQC assumed they would be attending care full-time, rather than after-school care and care during breaks.

Maximum group size for centers and homes were set using State of Michigan definitions. Where maximum group size was undefined for center preschool and school-aged children, the number of children in the ratio was doubled.

To fit the PCQC model, hourly subsidy reimbursement rates needed to be converted to full-time weekly rates. According to the Market Rate Survey, full-time children are in care for both centers and homes at an average of just over 9 hours a day. Therefore, hourly subsidy rates were multiplied by 45 hours to get a full-time weekly rate for the PCQC model.

The previous Market Rate Survey indicated that, apart from Head Start providers, very few centers received other revenue besides tuition. Therefore, the other revenue category was left as zero in the basic scenario.

Michigan's minimum wage was set to the 2020 level of $9.25. Minimum wage was used in the PCQC model to estimate pay for substitutes at centers and assistants for homes.

Assumptions for Center-Based Scenarios

Personnel. Personnel-related cost drivers included staff salaries and benefits and staff size. There was a basic assumption that as a center's star rating increases, staff salaries will go up. Salary levels were drawn from BLS data for Michigan, which were applied based on expected educational levels imputed from ECIC data (discussed below). In most cases 3-star center positions were at the 50th percentile, 1- and 2-star at the 25th percentile, and 4- and 5-star at the 75th percentile. Administrative assistant salaries were kept fixed at the median, and 2-star assistants were kept at the 25th percentile because of the likelihood that they would have modest educational credentials.

Table 8. Scenarios, by Position and Star Rating

Position	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
Director	$35,200	$45,140	$45,140	$58,530	$58,530
Teacher	$23,680	$23,680	$30,980	$42,440	$42,440
Assistant	$20,960	$20,960	$23,160	$25,730	$25,730
Administrative Assistant	$34,130	$34,130	$34,130	$34,130	$34,130

Most centers in Michigan lack an educational coordinator, as administrative activities are typically done by a single director. So education coordinators were left out of the scenarios. Health consultants were also left out of the scenarios, as school nurses do not typically exist outside of a school district.

The PCQC model assumes that requirements to have full-time staff are based on the number of children enrolled. However, the State of Michigan licensing regulations set full-time staff requirements by the number of hours the center is open in a day. As such, all of the center-based scenarios assumed the presence of a full-time director. An administrative assistant was added for scenarios where there were 40 or more students enrolled.

Additional personnel costs were related to mandatory benefits. Worker's compensation was set to $0.70, which was the average employer cost per $100 of covered wage for the State of Michigan in 2018. The unemployment insurance tax rate was set to 2.7%, which is the liability rate for new employers in the State of Michigan. This rate can range between 0.06% and 10.3%, depending on aspects such as years in business and type of industry. The maximum dollar amount taxed per employee for unemployment insurance was set to $9,500. The State of Michigan does not require employers to provide disability insurance, so this was set to zero. It was assumed there were no additional benefits to staff.

Non-Personnel. The PCQC model divides non-personnel cost drivers into per-child costs, per-classroom costs, per-staff costs, and per-site costs. The types of costs included in each category are as follows:

- Per-child costs
  - Food and food prep
  - Kitchen supplies
  - Educational supplies and equipment
  - Office supplies
  - Office equipment
  - Insurance, such as liability and accident
  - Postage
  - Advertising
- Per-classroom costs
  - Rent/lease
  - Utilities
  - Building insurance
  - Maintenance, repairs, and cleaning
- Per-staff costs
  - Professional development
  - Consultants
- Per-site costs
  - Telephone and internet
  - Audits
  - Franchise fees
  - Credit card processing fees
  - Permits
  - Transportation
  - Payroll costs

To estimate non-personnel costs, the annual costs in each category were calculated for each interviewee and averaged. Overall, the estimated average annual per-classroom costs for centers was $19,827, with average per-child costs at $505, per-site costs at $10,461, and training costs at $214.24.

The full-time weekly tuition rates for centers, by star rating, were based on the Market Rate Survey conducted by PPA. The 1-star centers were excluded because of the small sample size.

Table 9. Weekly Tuition Rate Estimates for Centers, by Star Rating

Age Group	2 Stars	3 Stars	4 Stars	5 Stars
Infant /Toddler	$220	$227.25	$250	$230
Preschool	$190	$195	$204	$173.25
School-age	$150	$166.5	$150	$150
Infant /Toddler	$220	$227.25	$250	$230

Cost drivers that were manipulated across the PCQC scenarios constructed included:

- Child-to-teacher ratios
- Use of student assessments
- Additional staff time spent on quality activities
- Participation in CACFP
- The mix of children eligible for free and reduced lunch in the CACFP program
- Percentage of enrolled children receiving the CDC subsidy
- The enrollment efficiency (percentage of children enrolled per capacity)
- Charging parents for the difference between tuition and CDC subsidy rates

Scenarios constructed to examine the impact of changes in these factors were run based on centers at a 4-star level. ECIC data were used to determine at which star rating level to apply which changes. Because ECIC has provider scores for general categories (not detailed subcategories like ratios or teacher credentials), the average score for centers at each star level was used to estimate the likelihood that a provider would reach a specific threshold. The maximum points for each subcategory were divided by the total number of points in that category to estimate the weight of that factor in determining a score level. This weight was then multiplied by the average score in ECIC data. For example, lower teacher-to-child ratios are worth up to 2 points in the "environment" category, which is 25% of the total points for environment (8). If a 3-star center's average score for the environment category was 6.1, this calculates to an expected score for ratios of 1.5 (.25 X 6.1 = 1.52), which rounds to "2" and hence suggests that 3-star centers are likely to have lower teacher-to-child ratios.

Teacher-to-child ratios require additional assumptions. First, the 2017 cost study indicated that ratios were often only smaller for preschool and school-age classes, while ratios for infants stayed at the levels required by licensing rules. Further, ratios vary by age of pre-schooler, so the median ratio of 1:10 was assumed. The ratios were reduced by two for 3-star centers and above.

By this method, centers tended to start conducting student assessments and participate in CACFP at the 3-star level. The percentage of additional staff time used for unpaid quality activities was set at the PCQC recommended base of 20%, and additional time was factored in starting at the 3-star level.

Table 10. PCQC Variable Inputs Based on Star Rating for Centers

Input	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
Teacher-to-Child Ratios	Preschool 1:10, School-aged 1:18	Preschool 1:10, School-aged 1:18	Preschool 1:10, School-aged 1:18	Preschool 1:8, School-age 1:16	Preschool 1:8, School-age 1:16
Assessments	None	None	$20	$20	$20
Additional Staff Time	20%	20%	22%	24%	26%
CACFP	No	No	Yes	Yes	Yes

Classrooms were set to 1 infant room, 2 preschool rooms, and 1 school-age room based on average enrollments by each type in the Market Rate Survey, in comparison with maximum group sizes. Poverty levels in the PCQC correspond to the levels for free and reduced school lunches. Based on data from CEPI, which indicates that at the kindergarten level that 49% are eligible for free meals (<130% poverty) and 5% for reduced meals (130%-185% poverty). Kindergarten levels were used because recent pre-kindergarten estimates have a much higher 70% total free and reduced lunch (FRL) eligibility. The percentage of children using CDC subsidies was estimated from the Market Rate Survey. The base figure was for the entire sample of star-rated survey respondents (39%) as well as the average CDC share at each star level (32% at 2-star, 3-star 38%, 4-star 41%, 5-star 51%). The share of children in poverty and receiving were adjusted jointly in the scenarios at 0% for both, 25% FRL and 15% CDC, and 85% FRL and 70% CDC. The base percentage of children in poverty was also compared with only 15% on CDC.

The PCQC default of bad debt (3%) was used. The base enrollment efficiency was set at the PCQC default of 85%, but was also compared to efficiency rating reported in the Market Rate Survey (69%), which may be lower due to COVID-19 restrictions. Various scenarios were modeled in the PCQC by adjusting each of the above factors. Additionally, scenarios also varied the assumption that providers were able to collect the financial gap between subsidies and tuition rates.

Assumptions for Home-Based Scenarios

Home providers tend to draw their salary from their profits—this was true for all home providers interviewed—so it was not considered part of their operating costs, and it was not considered in the PCQC model expenditures. Rather, the net revenue calculated in the model should be expected to include the home provider salary and purchase of their benefits. Models were created separately for family homes and group homes. The scenarios were set to assume no assistants in family homes. In group homes, the margin of net profits includes a full-time assistant. Additionally, it was assumed in all scenarios there were no benefits for assistants.

Home provider expenses are divided into 100% business use (those costs directly attributed to the child care business) and shared business use of the home (the expenses that are shared with the residential use of the home). The 100% business use expenses include:

- Advertising
- Vehicle expenses

- Equipment depreciation liability and other insurances
- Interest on business debt
- Legal and other professional fees
- Office supplies
- Repairs and maintenance for the business
- Educational supplies
- Food
- Telephone and internet
- Training and professional development
- Professional membership fees
- Licensing and permits

The shared business use of the home expenses include:

- Mortgage/rent
- Property taxes
- Homeowners or renters insurance
- Repairs and maintenance to the overall house
- Utilities
- General household supplies

The expenditures related to the business use of the home were divided by the default time-space percentage to get the correct cost level for the child care business. Family homes were expected to have 2 infants, 2 preschoolers, and 2 school-aged children. Group homes were assumed to have 3 infants, 4 preschoolers, and 3 school-aged children. These figures were based on average enrollment reported in the Market Rate Survey.

The full-time weekly tuition rates for homes were based on the Market Rate Survey conducted by PPA. As with centers, there were too few 1-star group homes in the survey sample to produce an estimate.

Table 11. Weekly Tuition Rate Estimates for Family Home-Based Providers, by Star Rating and Age

Age Group	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
Infant	$175	$150	$175	$190	$225
Preschool	$160	$150	$160	$175	$200
School-age	$135	$140	$155	$175	$197

Table 12. Weekly Tuition Rate Estimates for Group Home-Based Providers, by Star Rating and Age

Age Group	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
Infant	NA	$150	$165	$195	$200
Preschool	NA	$150	$150	$180	$190
School-age	NA	$140	$150	$167	$175

The same method to determine when to apply changes to star levels was used for home-based care as for centers, using imputations based on ECIC data. Homes tended to start student assessments at the 4-star level. The lower end of the assessment cost spectrum per student was applied. The additional hours used for unpaid quality activities began at the 3-star level. Homes tended to participate in CACFP starting at the 2-star level.

Cost drivers that were manipulated across the home-based PCQC scenarios constructed included:

- Use of student assessments
- Additional staff time spent on quality activities
- Participation in CACFP
- The mix of children eligible for free and reduced lunch in the CACFP program
- Percentage of enrolled children receiving the CDC subsidy
- Enrollment efficiency (percentage of children enrolled per capacity)
- Percentage of bad debt

Again, ECIC data were used to determine at which star rating level to apply which changes. Homes tended to start conducting student assessments and participating in CACFP at the 3-star level. The use of additional hours for unpaid quality activities tended to start at the 2-star level, increasing significantly at the 4-star level.

Table 13. PCQC Variable Inputs Based on Star Rating for Home-Based Providers

Input	1 Star	2 Stars	3 Stars	4 Stars	5 Stars
Assessments	None	None	$20	$20	$20
Additional Hours/Week	0 hours	2 hours	2 hours	20 hours	20 hours
CACFP	No	Yes	Yes	Yes	Yes

Scenarios constructed to examine the impact of changes in these factors were run based on homes at a 3-star level. Inputs related to poverty levels and CDC participation for home-based providers were handled the same way as those inputs for centers. However, the average share of CDC recipient children were not varied by star level, but in the base scenario held at the average of 47.5% for group homes and 44.4% for family homes. Additionally, scenarios also varied the assumption that providers were able to collect the financial gap between subsidies and tuition rates. The enrollment efficiency was set at the default of 85% and compared with survey averages of 69% for family homes and 77% for group homes to see how enrollment in context of capacity affected the model.

APPENDIX B: INSTRUMENTS

APPENDIX C: STAKEHOLDER COMMENTS

APPENDIX D: MARKET RATE BREAKDOWN